

InspireDataTM

User's Manual



Windows® | Macintosh®

Inspiration[®]
SOFTWARE, INC

Credits

InspireData™ is developed by TERC and Inspiration Software®, Inc. InspireData is published by Inspiration Software, Inc.

Created by Chris Hancock and Scot Osterweil

Management & Administration Don Helfgott, Kate Kennedy, David Libby, Glen Secor and Mona Westhaver

Engineering & Technical Product Management *Clozure Associates:* Jeremy Jones, Gary Palter and Gail Zacharias; *Inspiration Software:* Mark Fornia, Greg Jorgensen, Greg Watson, Wyatt Webb and Todd Whitaker

Quality Assurance Sue Hansen, Keith Miller, April Schuff and Geoffrey Unger

Databases & Teacher Resources Audrey Brislin, Meg Courtnage, Cathy Cuff, Rick Reynolds, Gina Shankland and Andrea Sutherland

Documentation & Graphics Pamela Brehm, Andrea Carlisle, Mary Beth Saddoris and Cecilia Singer

Classroom Piloting & Research Ricky Carter, Sally Crissman, Nick Haddad, Katherine Paget, Elizabeth Rowe; *Teachers:* Jennifer Burgin, Rick Comeau, Deb Gallagher, Liz Gelotte, Jan Preheim, Myra Sussman, Kathy Vandiver

Special Thanks to Kathy Jean, Tom Plati, Diamond Middle School, Lexington, MA; Lincoln Elementary School, Brookline, MA

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Chapter 1: Getting started with InspireData™

Welcome to InspireData, the visual way to explore and understand data.

Students can use InspireData to formulate questions and interact with data in science, mathematics and social studies. InspireData makes it possible to identify patterns, trends and relationships, solve problems, and build conclusions, resulting in deeper content knowledge and stronger critical thinking skills.

Learning InspireData

InspireData includes the following help resources and documentation:

InspireData Help

The InspireData Help system contains system requirements, installation instructions, a tutorial to get you started and detailed information about how to use InspireData, including special features, tools and commands.

- To open the *Help* file, choose InspireData Help on the Help menu. If the Help system is not available, you will need to install it using the InspireData CD-ROM.

InspireData User's Manual

The InspireData *User's Manual* contains all the information in the Help system. The manual is available as a PDF file, which you can view and print using Adobe® Acrobat® Reader. If your computer does not have Acrobat Reader, you can download a free copy from Adobe at www.adobe.com.

- To open the *User's Manual*, choose **Documentation** from the Help menu and double-click **User's Manual.pdf**.

Classroom Projects

These nine standards-focused projects provide a fantastic jumpstart to integrating use of InspireData into the classroom. You'll find step-by-step guidance on how to use this powerful tool to achieve desired learning outcomes across the curriculum.

- To open the *InspireData Classroom Projects* file, click the **Learn to Use** button on the InspireData Starter screen and select the **Classroom Projects** folder.

About Plots

These plot examples are based on real databases and take you through the four plot types (Venn, Stack, Pie and Axis).

- To open *About Plots*, click the **Learn to Use** button on the InspireData Starter screen and select the **About Plots** folder.

Learn to Use Handouts

- To open the *Learn to Use Handouts*, click the **Learn to Use** button on the InspireData Starter screen. Select **Documentation** and then select the **Learn to Use Handouts** folder.

Viewing and printing

The InspireData *User's Manual* is available in the form of PDF files. To view or print this information, you need Adobe Acrobat Reader installed on your computer. If your computer does not have Acrobat Reader, you can download a free copy from Adobe at www.adobe.com.

To view or print InspireData documentation:

1. Start InspireData.
2. On the InspireData Starter screen, click the **Learn to Use** button.

Double-click on **User's Manual.pdf**.

Customer Service

Inspiration Software®, Inc. is committed to assisting our customers. If you have comments, questions or need assistance, you can contact us by email, telephone or fax, or visit our web site at www.inspiration.com/techsupport.

Be sure to register your copy of InspireData so you can take advantage of the full range of our support services. To learn more about the advantages of registering, see *Registering InspireData* on page 17.

When you contact us, please be ready to provide your serial number. Our support services are open Monday-Friday from 8 a.m. to 5 p.m. Pacific time.

Telephone 503-297-3004

Fax 503-297-4676

Email techsupport@inspiration.com

Key Features

The key features of InspireData make it a powerful learning tool that can be used across the curriculum.

Table View

Enter and customize data elements into tables to support activities and experiments across the curriculum in science, mathematics and social studies.

Plot View

Analyze data visually by creating and manipulating plots that illustrate trends and outcomes.

Integrated data visualization environments

See the meaning in data to strengthen analytical skills and understanding.

- Toggle between Table and Plot Views with one click, moving instantly from data collection to data interpretation.
- Make connections between raw data and its visual representations to interpret information, solve problems and draw conclusions.

Document and present findings and conclusions

Use the Slide Show and Notes features to capture a sequence of data analysis and to annotate, submit and present completed work.

Survey and e-Survey

Gather data by use of an onscreen form or a web form. The e-Survey and the Survey add records created by participants to a database, which you can then explore in Plot View.

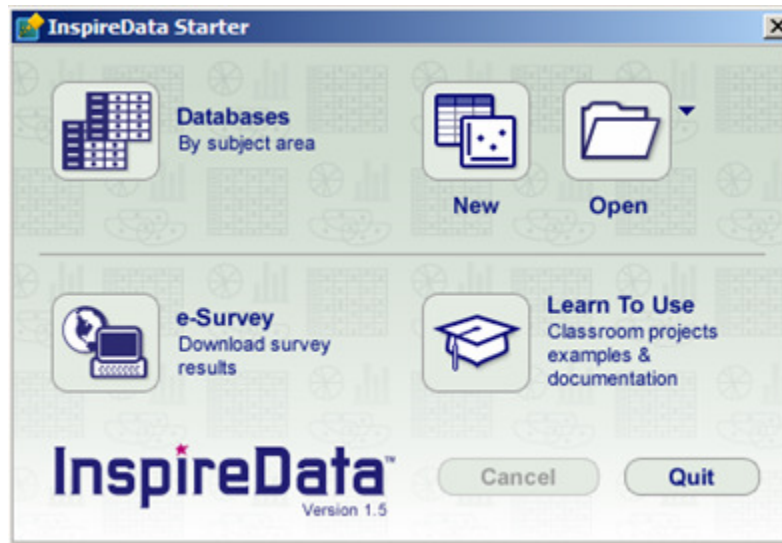
What's New in InspireData 1.5

InspireData now includes the following new features and changes:

New InspireData Starter screen

The buttons on the new Starter screen have changed. Now you will see:

- A new button called **Databases**, which links to content-rich and template databases listed by subject area.
- Example databases, classroom projects and documentation are now all under **Learn to Use**.
- A new feature called an e-Survey makes it possible to collect data online and download the results to an InspireData database.



The Survey

The Questionnaire has been replaced by the Survey. The Survey, which is used to gather data by use of an onscreen (but not online) form, is available when you open the Table menu and choose

Launch Survey. Like the e-Survey, the Survey adds the records created by participants to a database, which you can then explore in Plot View.

The e-Survey

You can now publish a survey online with an e-Survey. The e-Survey collects data through online forms that students can fill out from any computer with an Internet connection. InspireData does not need to be installed on a computer in order to add records to an e-Survey, nor do participants in the e-Survey need to know anything about InspireData.

When the e-Survey is complete, the e-Survey feature allows you to download your results into InspireData, which automatically creates a new database so that students can begin to plot and explore the data.

Text Size Control

A new Text Size Control button  lets you increase the size of the text in both Table View and Plot View. This makes it easier for people to read the text when working around a monitor or when using a projector.

Validation of Data Entry

You can now control the data entered into fields using Validation settings. You may, for example, want numbers within a range from 1 to 10 in one field of your table. The Validation option allows you to set that range. Or you can create a drop-down list of choices for a field or the maximum number of characters that may be entered into a field. Validation settings offer these options and more. They apply wherever data is entered: into a table or into a Survey or e-Survey.

Field Format

The Field Format feature, which was previously an option on the Field Type menu, is now a separate button on the table toolbar itself. Field formats can be changed at any time.

International Enhancements

You can now display numeric data as currency in Euro or pounds in addition to dollars. Choose from a Dollar sign (\$1,234.56), Pound sign (£1,234.56), or Euro (€1,234.56).

Pie Plot Enhancement

For fields that are defined numerically (e.g., Number and Time fields), InspireData gives you two options for creating a Pie plot: Count or % of Total.

Axis Plot Enhancements

For data that is continuous and numeric, you can now display a line graph to show changes in data over distance or time, or a line of best fit to show correlation between two fields.

Export/Copy Plot

InspireData can export an image of the plot on the workspace to a file in a .JPG, .GIF or .PNG format. You can also copy the current plot to your system's clipboard and paste it into another application using the Copy command in the Edit menu.

"No Constraint" Replaced by "Clear Selection" When Clearing Plots

In field choice menus, you can now clear plots by clicking on an axis and choosing "Clear Selection." This replaces "No Constraint," which was formerly at the top of the list.

Drawing Lines on a Plot

When you create an axis plot where both axes are numeric and continuous data, you can use the Line button  to display two types of lines: a Line Graph and a Line of Best Fit. The **Correlation Coefficient** for the Line of Best Fit is displayed on the workspace in the upper left hand corner.

View All in Plot Context

"View All" has been added to the Right-click/Ctrl/click menu when in Plot View.

Jumpstart Data Collection and Investigation with expanded Learn to Use Section

Dialogs accessible from the InspireData Starter screen allow you to browse content that is provided with InspireData 1.5. This augments the content continuously made available by Inspiration Software online.

InspireData now has a comprehensive suite of teacher resources in **Learn to Use**.

Learn to Use Handouts include 10 additional overviews of some of InspireData's basic features: creating each plot type, using formulas, setting up a slide show and more. To open the Learn to Use Handouts, click the Learn to Use button on the InspireData Starter screen. Select Documentation and then select the Learn to Use Handouts folder.

About Plots are visually engaging slide shows for teaching and learning about data investigation. Developed by educators, each dynamic slide provides helpful definitions and thought-provoking questions for data investigation.

Example Databases are rich with content to be used across the curriculum. Also developed by educators, each database includes dynamic plots and helpful notes to increase student data literacy.

Lesson Plans aligned to education standards serve as a complete resource for teachers and are available through InspireData Web Resources. Each Lesson Plan includes a teacher instructions document and a student exemplar database that can be used as a teaching example or for assessment. A corresponding database template is found in the Database section, which makes it easy for students to begin data inquiry and investigation quickly.

Classroom Projects offer nine standards-aligned projects, complete with step-by-step instructions to make it easy to integrate InspireData across the curriculum.

Educator Databases include four database templates for analyzing classroom and student data. Teachers can use InspireData to compare student test scores between classes or between schools within a district. Tools include a Parent survey designed and used by a principal to collect and analyze parent input on school performance.

Installing InspireData

Before installing InspireData, make sure your computer meets the following minimum requirements:

System requirements

Windows®

- Windows 98 SE, 2000, ME, XP, Vista
- 128 MB RAM
- 60 MB available hard drive
- 800 x 600 display with 16-bit color depth or higher
- Optional
 - Interactive electronic whiteboard
 - Printer

Macintosh®

- OS X version 10.2.8 or higher
- 192 MB RAM
- 80 MB available hard drive
- 800 x 600 display
- Optional
 - Interactive electronic whiteboard
 - Printer

Windows installation

1. Close all programs, including screen saver and anti-virus programs.
2. Insert the InspireData CD-ROM into your CD-ROM drive, or locate the file you downloaded if you purchased an electronic copy.
3. Double-click My Computer, and then double-click the icon for your CD-ROM drive.
4. Double-click the Install.exe icon, and follow the instructions on your screen to complete the installation process.
5. InspireData starts automatically and the Personalize InspireData dialog appears.
6. Enter your name and/or organization and your serial number, then click the OK button.

Note: Your serial number is printed on the CD-ROM sleeve. The serial number identifies your copy of InspireData and is required to personalize your InspireData application. To register your copy of InspireData, see Registering InspireData on page 17.

Macintosh installation

1. Close all programs, including screen saver and anti-virus programs.
2. Insert the InspireData CD-ROM into your CD-ROM drive.
3. Drag the InspireData folder to your Applications folder. Installation is complete.
4. Start the application by double-clicking the InspireData icon.
5. Enter your name and/or organization and your serial number, then click OK.

Note: Your serial number is printed on the CD-ROM sleeve. The serial number identifies your copy of InspireData and is required to personalize your InspireData application. To register your copy of InspireData, see Registering InspireData on page 17.

Network installation

Refer to the network installation instructions provided with your volume license. Volume licenses are available from Inspiration Software, Inc. For more information, call 503-297-3004.

Removing InspireData

Windows

1. Click the **Start** button, choose **Settings**, then select **Control Panel**.
2. Double-click **Add/Remove Programs** (Windows XP and older) or **Programs and Features** (Windows Vista).
3. Select **InspireData** in the list box, then click the **Add/Remove** button (Windows XP and older) or the **Uninstall/Change** button (Windows Vista).

Macintosh

- Drag the InspireData folder to the **Trash**, then empty the Trash.

Registering InspireData

If you purchased a single copy of InspireData, you can register online. You must have a modem and a browser installed to register online.

To register online, click Register Online after you personalize InspireData. Your browser will open to InspireData's online registration form. Follow the on-screen instructions.

To register a volume license, complete and mail or fax the printed license agreement.

Registration entitles you to these special benefits from Inspiration Software, Inc.:

- Information about new products or updates
- *Flashes*, the Inspiration Software, Inc. email newsletter
- Free telephone, fax and email technical support

- Substantial discounts on upgrades
- Tips on using InspireData

Starting InspireData

After you have installed and personalized your copy of InspireData, you're ready to get to work. Here's how you open InspireData:

To start InspireData on a computer running Windows:

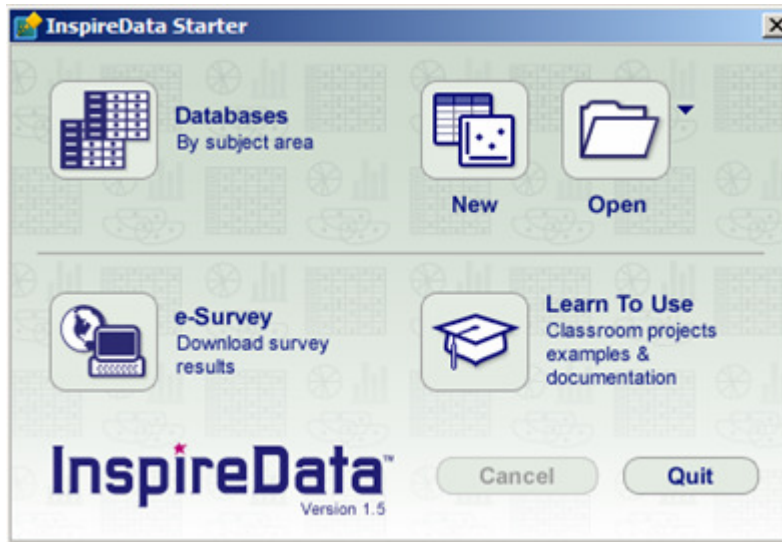
- Click the **Start** button, point to **Programs**, then click **InspireData**.

To start InspireData on a Macintosh computer:

- Open the folder that contains InspireData, then double-click the InspireData icon.

About the InspireData Starter screen

The InspireData Starter screen lets you quickly begin a new project, open over 100 content-rich and template databases, and download databases created by means of an e-Survey. You can also find additional resources to help you learn how to use InspireData, including lesson plans, analytical tools for educators, Learn to Use Handouts, classroom projects and complete documentation.



To use the InspireData Starter screen:

Click . . .	. . . to do this
	View and choose from over 100 science, mathematics, social studies and more databases.
	Download results from an e-Survey.
	Create a new database.
New	
	Open an existing database. Click the Open Recent Files button  next to the Open button to view a list of recent files.
Open	
	View and choose from a list of included documentation, Classroom Projects and more.
Learn to use	

The items that appear on the InspireData Starter screen can also be found in the File and Help menus.

Quitting InspireData

1. On the **File** menu, choose **Exit** (Windows) or **Quit** (Macintosh).

If you've made changes to your document, InspireData will ask if you want to save those changes.

2. Click **Save** to save your changes and quit InspireData.

About the InspireData views

Table View and Plot View are the working environments for InspireData. In Table View you enter and record data; in Plot View you analyze, manipulate and understand the data visually. When you enter new data in Table View, information is automatically updated in Plot View.

Table View and Plot View

Use Table View to enter, import and customize data elements to support classroom activities and experiments. The data you enter is distributed freely in the integrated Plot View.

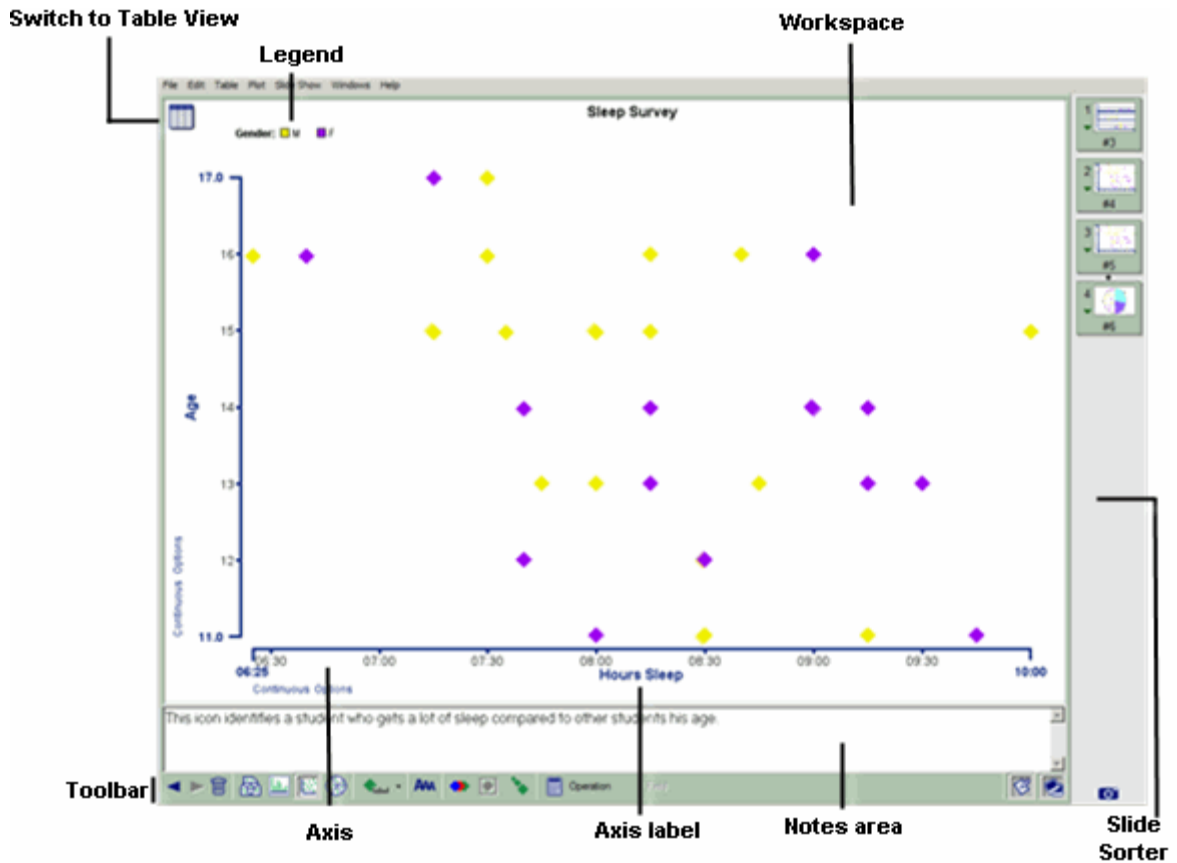
Notice that you can switch to Plot View by clicking the button in the upper left-hand corner of Table View.

Table View:

	Student	Age	Gender	Hours Sleep	Wake Process	How Do You Wake Up?	Breakfast
◆	A	14	F	09:00	easy	naturally	medium
◆	B	12	F	08:30	easy	naturally	small
◆	C	15	M	08:00	so-so	person	small
◆	D	17	F	07:15	easy	alarm	small
◆	E	17	M	07:30	hard	alarm	large
◆	F	13	F	09:30	easy	naturally	large
◆	G	11	M	08:30	so-so	person	medium
◆	H	16	M	08:40	so-so	person	medium
◆	I	16	M	07:30	hard	alarm	none
◆	J	11	M	09:15	easy	naturally	none
◆	K	16	F	06:40	hard	alarm	none
◆	L	11	F	08:00	so-so	alarm	small
◆	M	15	M	07:15	hard	alarm	medium
◆	N	13	F	09:15	easy	naturally	medium

Use Plot View to analyze data visually by creating and manipulating plots that illustrate trends and patterns. Notice that you can switch to Table View by clicking the button in the upper left-hand corner of Plot View.

Plot View:



Uses of tables

Use tables to collect and organize raw data into fields (columns) and records (rows). You can enter your own data or import data sets from other sources. Once you have entered data into a table, you can modify its properties, customize icons and even use formulas to create new data.

◆	Student	Age	Gender	Hours Sleep	Wake Process	How Do You Wake Up?	Breakfast
◆	A	14	F	09:00	easy	naturally	medium
◆	B	12	F	08:30	easy	naturally	small
◆	C	15	M	08:00	so-so	person	small
◆	D	17	F	07:15	easy	alarm	small
◆	E	17	M	07:30	hard	alarm	large
◆	F	13	F	09:30	easy	naturally	large
◆	G	11	M	08:30	so-so	person	medium
◆	H	16	M	08:40	so-so	person	medium
◆	I	16	M	07:30	hard	alarm	none
◆	J	11	M	09:15	easy	naturally	none
◆	K	16	F	06:40	hard	alarm	none
◆	L	11	F	08:00	so-so	alarm	small
◆	M	15	M	07:15	hard	alarm	medium

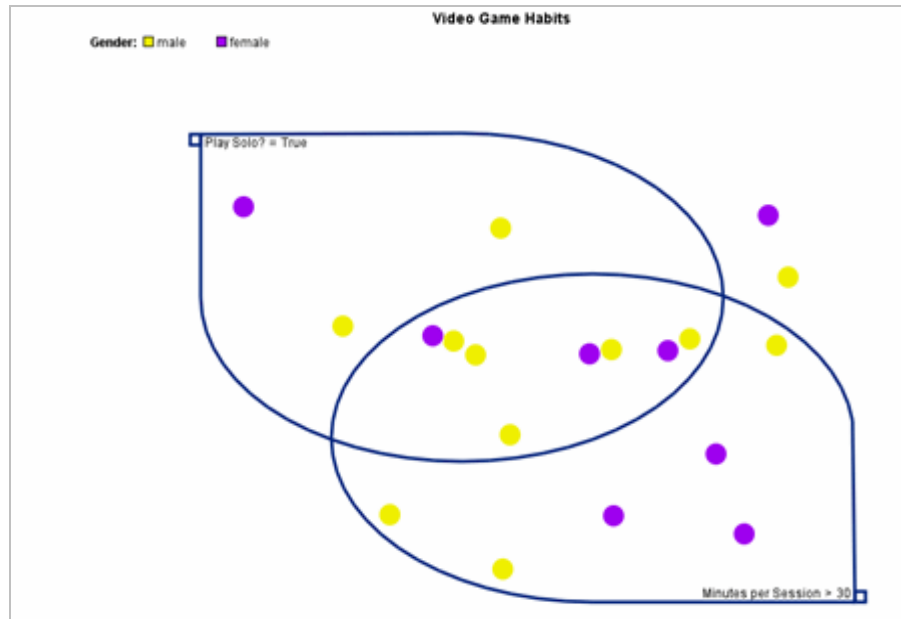
Uses of plots

With plots, you can manipulate data and examine potential changes and impacts on trends and outcomes. Plots provide a visual representation that opens up questions and opportunities for interesting interactions with the data. With InspireData, it's possible to view the information in different types of plots to find the best way to represent meaning, including Venn, Stack, Bar chart, Pie, Axis and Box plots.

Venn plot

A Venn plot describes and compares attributes by separating records into groups based on their characteristics.

Venn plots show relationships between mathematical sets. They can be used to identify the commonalities and differences among things, people, places, historical events, ideas or physical items. With InspireData, you can create Venn plots with up to three loops.

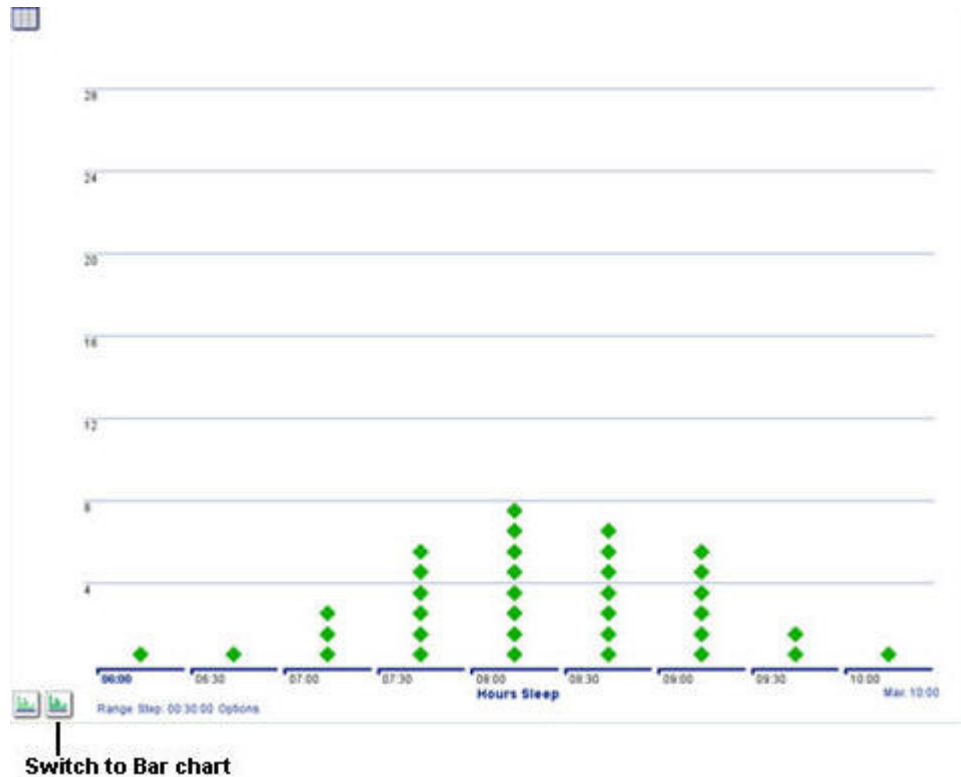


Stack plot

A Stack plot is similar to a line plot or a pictograph, and displays the distribution of values within one field of a database. The Stack plot will sort data by the variable you select.

Parallel stack plots can be used to analyze distributions across two variables.

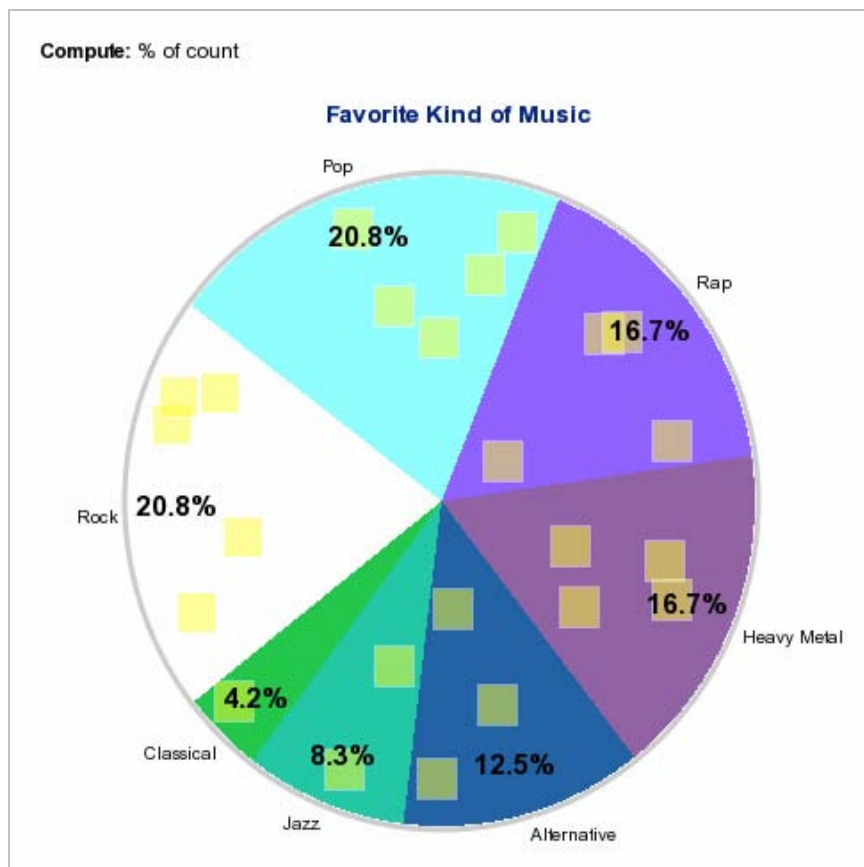
Any Stack plot can be changed dynamically into a Bar chart using the Bar chart button . Stack plots and Bar charts are ideal for analyzing distributions and measures of central tendency (mean, median and mode).



Pie plot

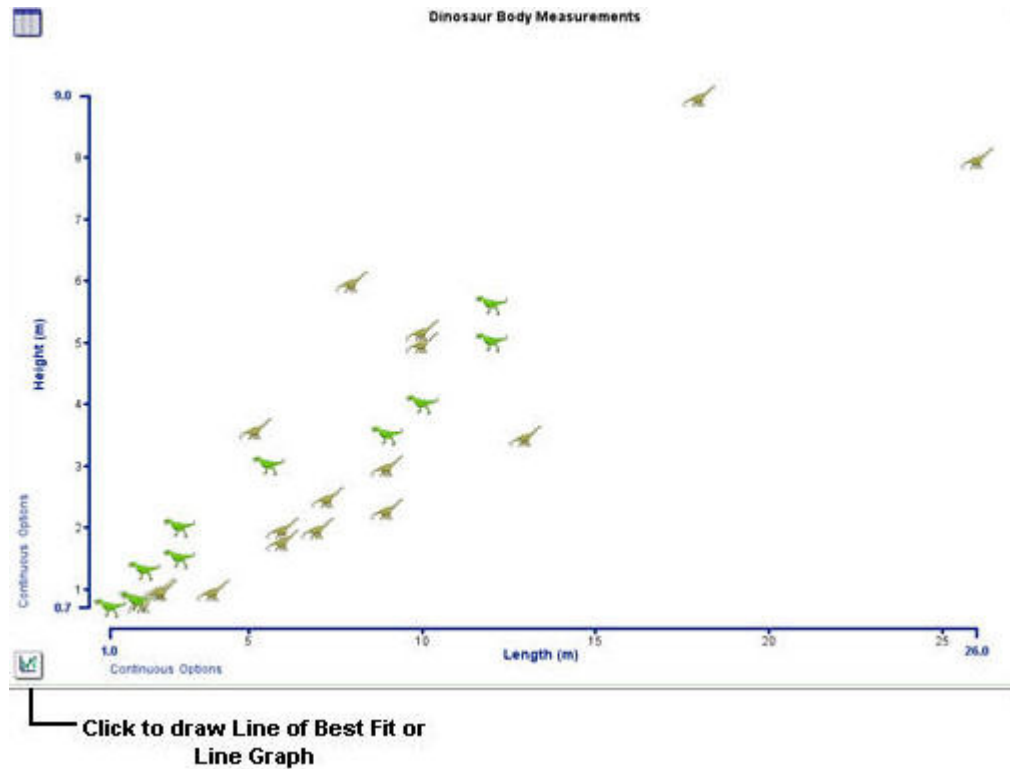
A Pie plot by Count shows the distribution of values within one field of a database. The size of each section is proportional to the number of records it contains.

Multiple Pie plots can be displayed to make comparisons across a second field. Numeric fields can be plotted by Count or by % of Total, depending on which is appropriate for the selected field. Pie plots are ideal for showing relationships to the whole.



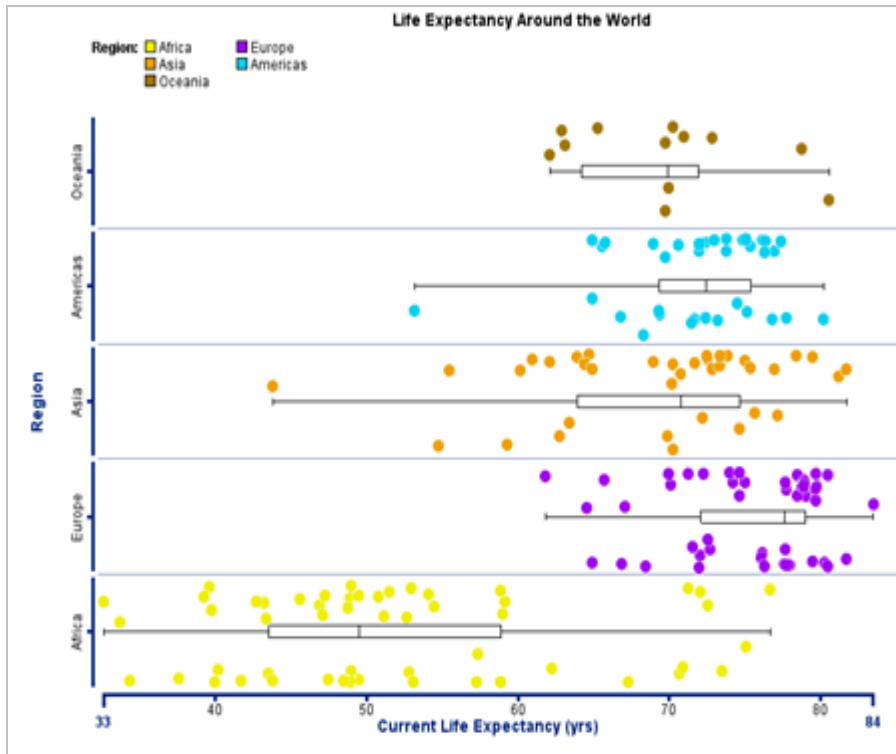
Axis plot

An Axis plot is an ideal way to investigate correlation between two variables. Once two fields are selected, you can identify trends, mark outliers, create a Line Graph or add Line of Best fit.



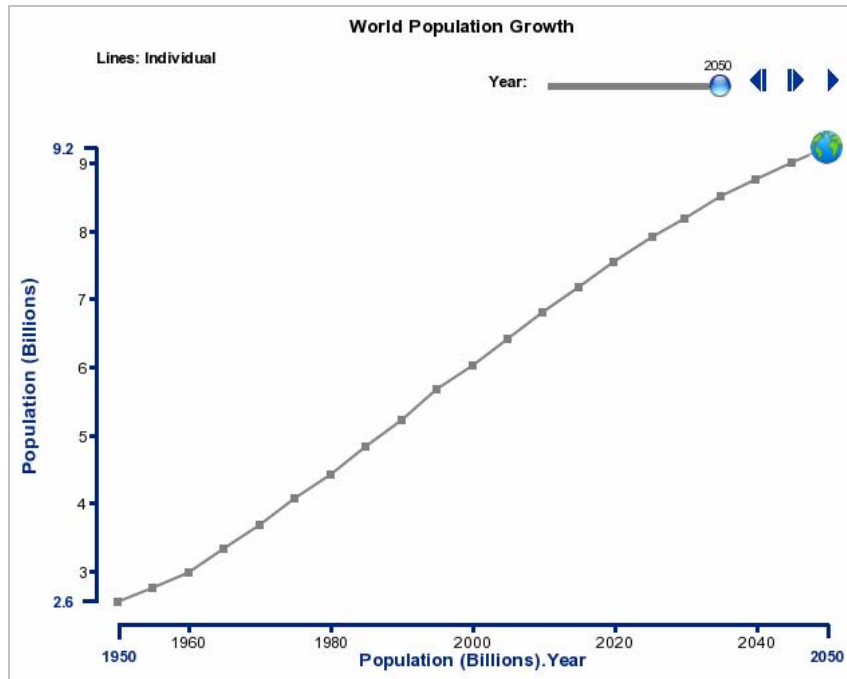
Box plot

A Box plot visually represents the median, the range and the quartiles of a set of numeric data. The 5 number summary can be displayed to analyze the percentage of data within each quartile range. With InspireData, you can add a Box plot to any Axis plot that contains a numeric field.



Time series data

InspireData can plot time series data. Time series data is indexed to time or sequential events. A time series is most commonly displayed as a line graph representing changes over time. With InspireData, time series data can be displayed in any plot type, and you can animate the data to illustrate the changes as they occur in time.



Chapter 2: Learning InspireData, A Tutorial

This tutorial is a great starting point for learning how to use InspireData. The four lessons are in small, manageable sections so you can learn the basics quickly. Plan on about an hour from start to finish.

You use InspireData the same way you use most Windows and Macintosh programs. For example, you use the mouse to drag objects and to select text. You also click and double-click, as well as enter information using the keyboard. If you're not comfortable doing these things, take a moment now and refer to the user's guide that came with your computer.

Conventions we use

This tutorial has instructions for both Windows and Mac OS-based computers. The Windows instructions appear first, and the Mac OS instructions immediately afterward. Here are two typical examples:

- Use the CTRL (Windows) or Command (Macintosh) key
- Press Enter (Windows) or Return (Macintosh).

When you're asked to enter specific text, the text you are to type appears in **bold**. When instructions refer directly to using a menu item, button or other interface element, the name of that element also appears in **bold**.

InspireData offers many ways to do things—from toolbar buttons to menu commands to keyboard shortcuts, but this tutorial usually shows only one way to do a task. This makes it easier to learn the task. Check the InspireData Help system and detailed directions about features in the InspireData *User's Manual* for alternatives. Pick the method that you like best.

To view or print the InspireData *User's Manual*, see Viewing and printing on page 12.

How we organized the tutorial

Step-by-step instructions lead you through creating a table, plotting data, presenting a slide show and more.

Each of the four lessons introduces you to InspireData's unique features. When you finish the tutorial, you will be ready to collect, manipulate and analyze data on your own.

Lesson One: Introduction to Plot View

In this lesson, you'll open a database containing information about the sleep habits of a group of students. You'll learn to do the following:

- Start InspireData
- Open a database
- Quick introduction to Table View
- Switch to Plot View
- Show and change icon labels
- View record details
- Create a Venn plot
- Add a Venn loop
- Add color to further represent meaning
- Increase text size for elements in Plot View
- Create a Stack plot
- Show the mean for each level
- Create an Axis plot
- Mark items of interest
- Create a Box plot in an Axis plot
- Create a Pie plot
- Subdivide a Pie plot
- Save a document

Start InspireData

Note: Before you can start the program, InspireData needs to be installed. If you haven't installed InspireData on your computer yet, see Installing InspireData on page 15.

To start InspireData on a computer running Windows:

- Click the **Start** button, point to **Programs** and click **InspireData**.

The InspireData Starter screen opens.

To start InspireData on a Macintosh computer:

- Open the **InspireData** folder from the location you installed it (ideally Applications), then double-click the **InspireData** icon.

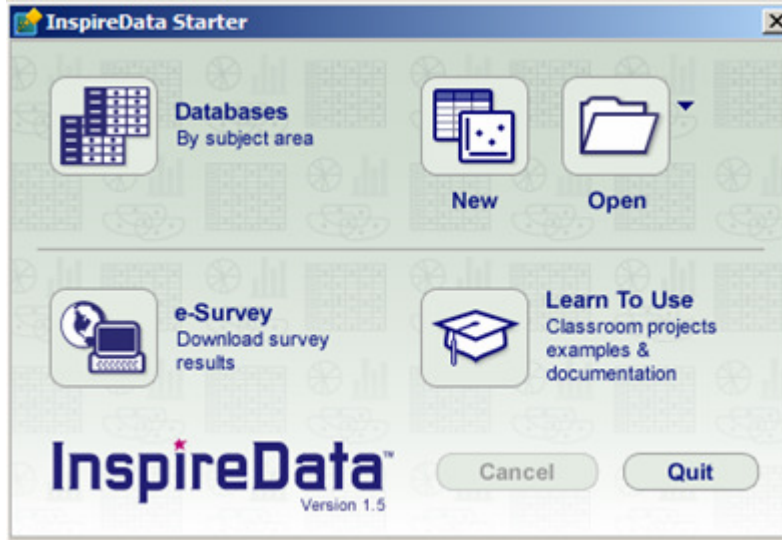
The InspireData Starter screen opens.

Open a database

InspireData has more than 100 content-rich and template databases included.

You'll begin the tutorial by opening one of the many available databases.

- Click the **Databases** button. Double-click the **More** folder, then open **Sleep Survey**.



The Sleep Survey database opens in Table View.

Quick introduction to Table View

A table consists of fields (columns) and records (rows).

The table for the example database shown below contains information about the sleep and morning habits of a group of students. Each record represents the sleep habits of a single student. (Names here have been replaced by letter codes to protect anonymity.)

	Field						
	Student	Age	Gender	Hours Sleep	Wake Process	How Do You Wake Up?	Breakfast
Record	A	14	F	09:00	easy	naturally	medium
	B	12	F	08:30	easy	naturally	small
	C	15	M	08:00	so-so	person	small
	D	17	F	07:15	easy	alarm	small
	E	17	M	07:30	hard	alarm	large
	F	13	F	09:30	easy	naturally	large
	G	11	M	08:30	so-so	person	medium
	H	16	M	08:40	so-so	person	medium
	I	16	M	07:30	hard	alarm	none
	J	11	M	09:15	easy	naturally	none
	K	16	F	06:40	hard	alarm	none
	L	11	F	08:00	so-so	alarm	small
	M	15	M	07:15	hard	alarm	medium

The fields in the table show data that was collected about the students. The example contains numeric data (age and hours of sleep) and text data (student, gender, ease of wake process, how a student wakes up and what size breakfast they eat).

You will learn more about adding records, creating fields and importing data into a table in a later lesson. Now it's time to see how Table View and Plot View are integrated by exploring the data from our sample database in Plot View.

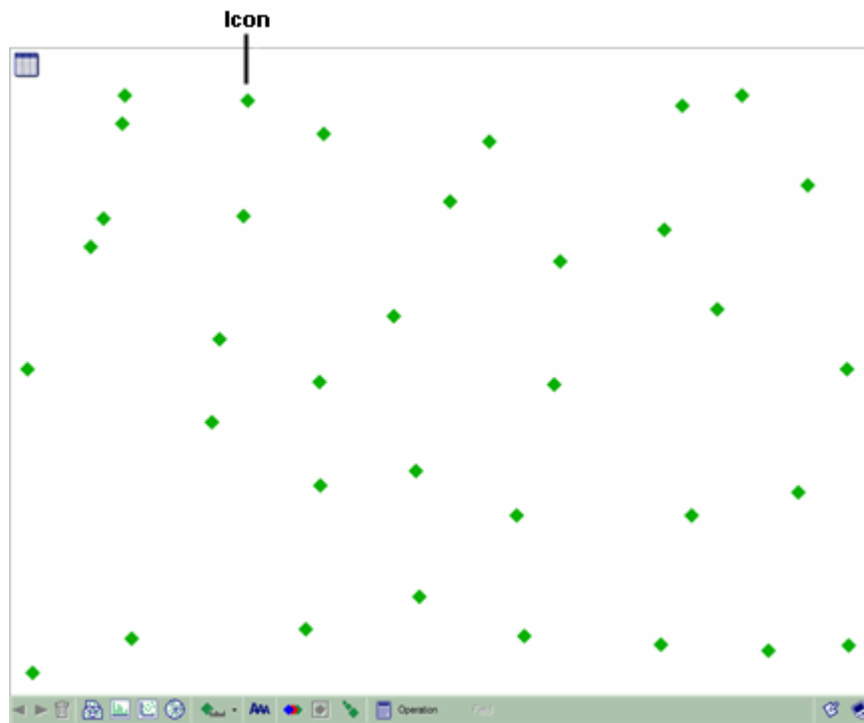
Switch to Plot View

In Plot View you can visually analyze data.

- To view your data in Plot View, click the **Plot View** button  on the **Toolbar**.

The icons you see below represent each record from the Sleep Survey table. The first time you switch from Table View to Plot View, icons are plotted freely and are moveable. Using InspireData's plotting tools, you can arrange the icons in many informative ways.

Here's what the data looks like now:

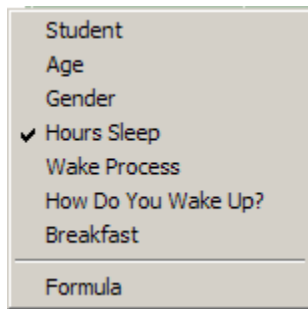


Show and change icon labels

Labels help you identify the icons. You can choose the values from any of the fields in your database as labels.

1. On the **Toolbar**, click the **Label** button  to turn on labels.
2. Experiment by choosing different fields to use for a label. Click the **Label Options** button  on the **Toolbar**.

The Label Options menu appears displaying a list of the field names from Table View.



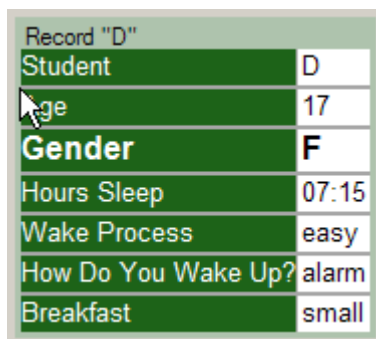
3. Select the field you want to display and see what happens to your plot.
4. Click the **Label** button again to turn the labels off.

View record details

Each icon ◆ represents one record in the database.

- Double-click on an icon ◆.

A window displaying all of the data for that record will appear.



Record "D"	
Student	D
Age	17
Gender	F
Hours Sleep	07:15
Wake Process	easy
How Do You Wake Up?	alarm
Breakfast	small

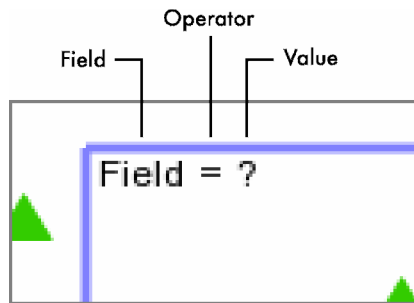
Create a Venn plot

With Venn plots you can compare and analyze relationships between sets of data.

InspireData lets you create Venn plots with up to three loops.

1. On the **Toolbar**, click the **Venn Plot** button .

A Venn loop appears with **Field = ?** in the corner of the loop. Use this equation to define which icons you want in the loop.



2. Click on the word **Field** and select **Hours Sleep** from the menu that appears.
3. Click on the **Operator**, which is currently an equals sign (=), then select < from the menu that appears
4. Click on the **question mark (?)**. Type **8:00** into the dialog, then click the **Accept** button .

Only those icons meeting the criteria—fewer than 8 hours sleep per night—now appear inside the loop.

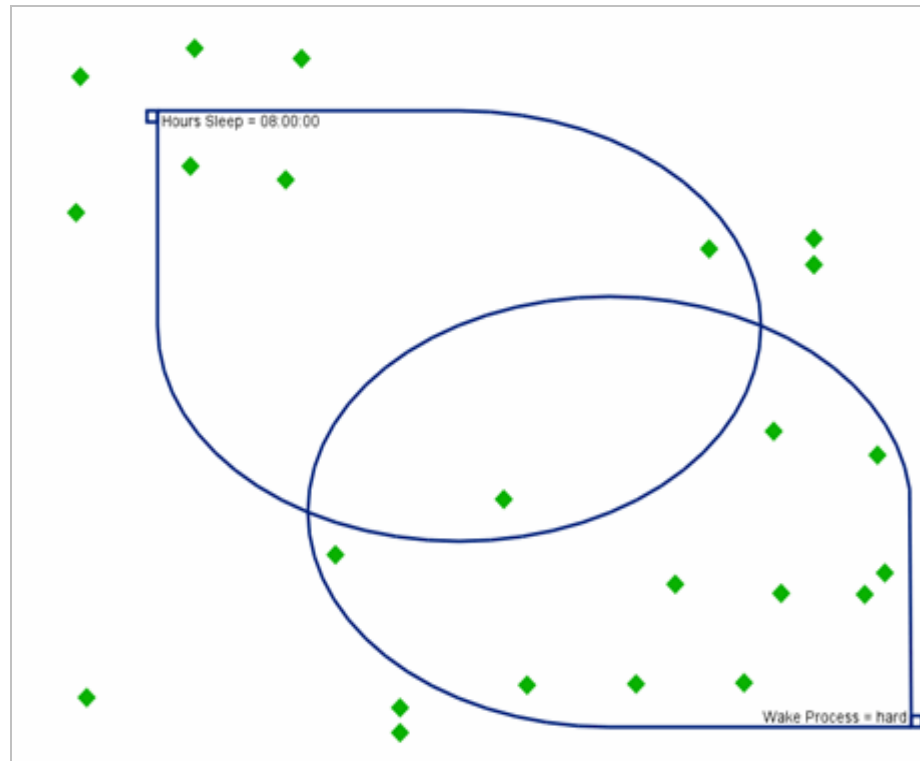
Add a Venn loop

Now you'll add a second Venn loop.

1. In the lower left corner of the workspace, click the **Add Loop** button .
2. In the equation, click on the word **Field**. Select **Wake Process**.
3. Click on the **operator**. Select =.
4. Click on the **question mark (?)**. Select **hard**.

Records are sorted into multiple categories. Where the two loops overlap, you can see that the students who get fewer than 8 hours of sleep have a harder time waking up. Students who do not match the characteristics you have set (in this case, the students who get more than 8 hours of sleep **and** don't have a hard time waking up) remain outside of both loops.

Here's what the data looks like now:



Add color to further represent meaning

Color adds another layer of visual detail and meaning to your plot. Choose any field in your plot to use as a basis for coloring. Colors are assigned to your icons based on the values in the field you select.

- On the **Toolbar**, click the **Color by Field** button  and select **Gender**.

At the top of the plot, a legend shows how colors have been assigned to the values.

Gender:  M  F

The icons of the boys are yellow; the icons of the girls are purple.

Increase text size for elements in Plot View

Use the Text Size control button in the Toolbar to increase the size of the text in notes and for elements in your plot. Increasing the text size is especially useful when you are working in a group around a computer monitor or when using a projector.

1. On the **Toolbar**, click the **Text Size** button  .
2. Experiment with each of the three text size settings provided to see which one works best for your plot.

Create a Stack plot

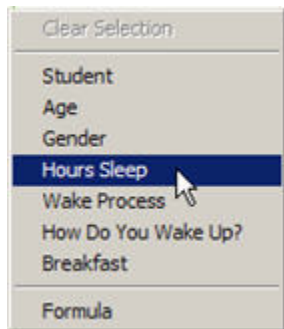
A Stack plot divides the values within one field into categories, then organizes the icons that fall into each category into stacks. The more records in a category, the higher the stack.

Stack plots are useful for showing how many records share a particular characteristic.

1. On the **Toolbar**, click the **Stack Plot** button .

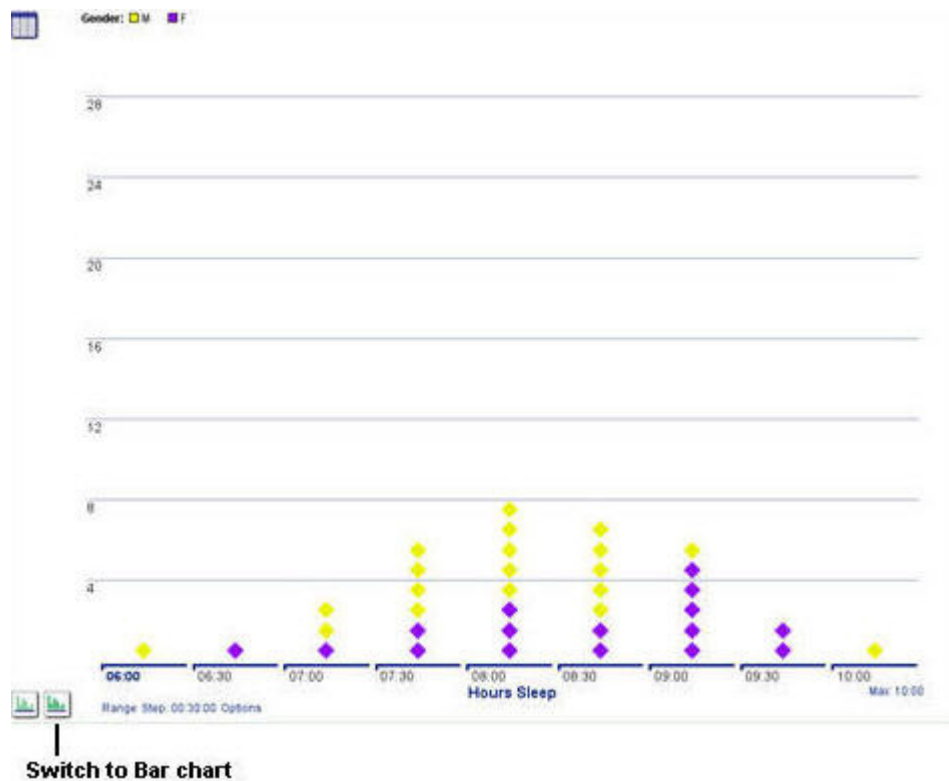
When you first switch to Stack plot mode, the icons are arranged into one tall stack. Once you assign a field to the axis, the icons will move into separate stacks based on their values.

2. On the workspace, click the **Axis label** of the X axis and select **Hours Sleep**.



Use the numbers on the left side of the plot to help count the icons in each stack.

Here's what the data looks like now.



You may switch to a Bar chart by clicking the Bar chart button  in the lower left-hand corner of the workspace.

Create a parallel Stack plot

You can divide your Stack plot using different characteristics. To see the relationship between the length of time a student sleeps and the wake process, for example, you could use a parallel Stack plot.

1. On the lower-left corner of the workspace, click the **Plot Options** button , then select the **horizontal parallel stack** option .

A Y axis appears on the left side of your stack plot.

2. Click the **Y Axis** label and select **Wake Process**.



The pattern shows that the fewer hours a student sleeps, the harder it is to wake up.

Since the icons representing male students are now yellow and the icons representing female students are purple, we can quickly see that boys find it harder to wake up after getting fewer hours of sleep than girls do.

Show the mean for each level

Now that you have two distinct ranges of data you can display the average or mean which, in this case, would be the average or mean hours of sleep for each group.

- Click the **Options** button next to the X axis near the lower-left side of the workspace, then select **Show Mean**.



Create an Axis plot

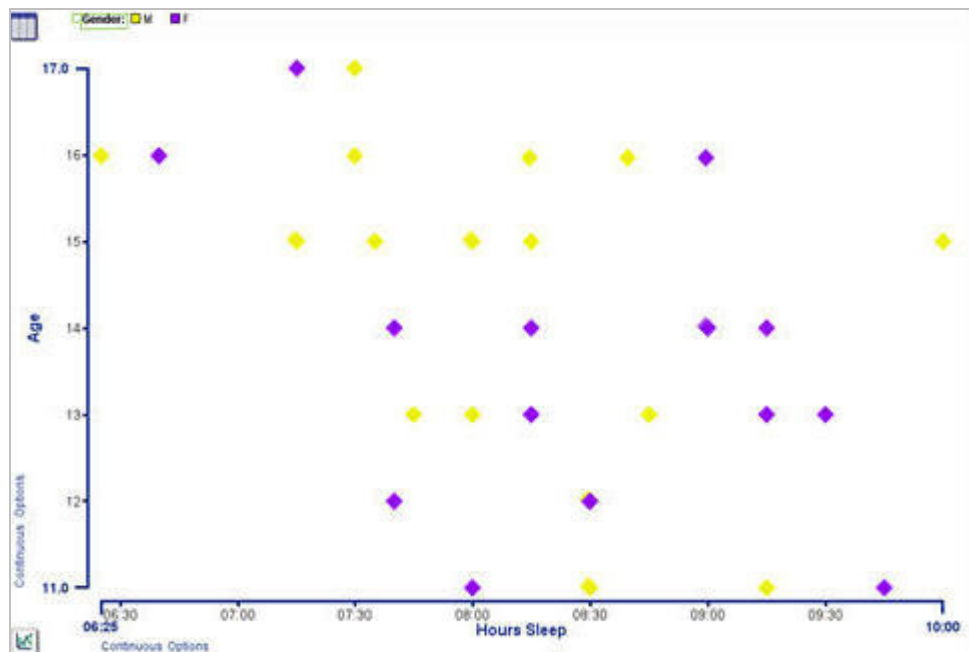
Axis plots let you create scatterplots, which are a great way to find and investigate correlations. For example, you could see if there was a relationship between amount of sleep and age.

- On the **Toolbar**, click the **Axis Plot** button .

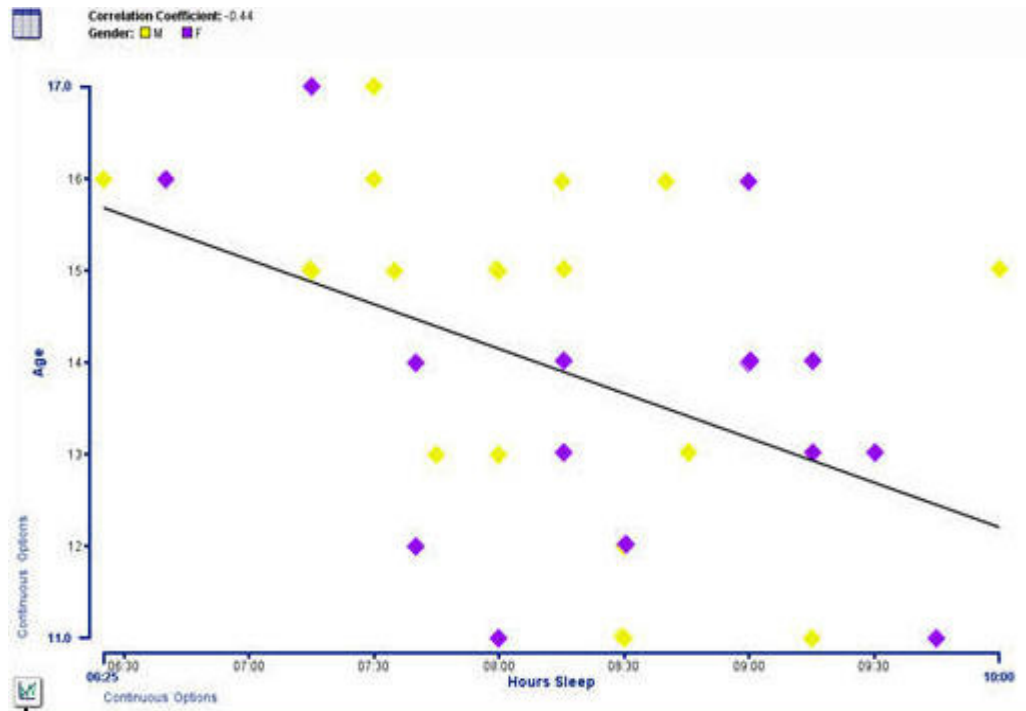
The icons won't move until you assign fields to the X and Y axes.

- Click the **X Axis** label and select **Hours Sleep**.
- Click the **Y Axis** label and select **Age**.

The plot shows that older students tend to get less sleep than younger students.



When you create an Axis plot where both axes are numeric and continuous data, you can display the Line of Best Fit, as shown below, or a Line Graph. To do either one, click the button in the lower left corner of the workspace.



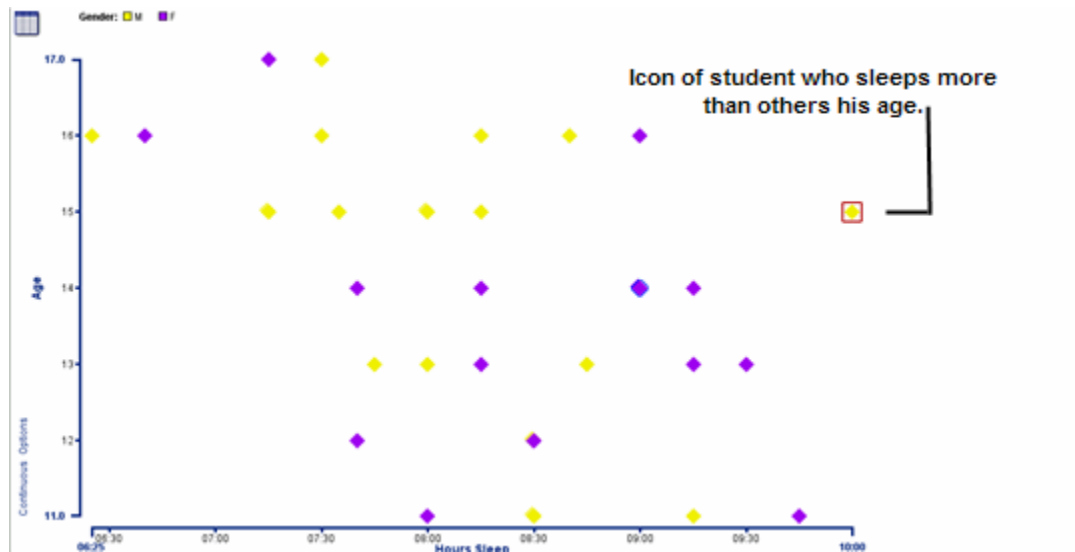
Click to display Line of Best Fit or
Line Graph

Mark items of interest

Some icons might have the highest or lowest values for a particular field or seem to defy the general trend. You can mark these icons and track them through your plots.

For example, in this plot you can see that one student gets a lot of sleep compared to others his own age.

1. Click on the icon of the student who seems to get more sleep than others in his age group.
2. On the **Toolbar**, click the **Mark** button .



Since the icon is now marked with a box, you can easily identify and track it as you make changes to the plot.

Create a Box plot in an Axis plot

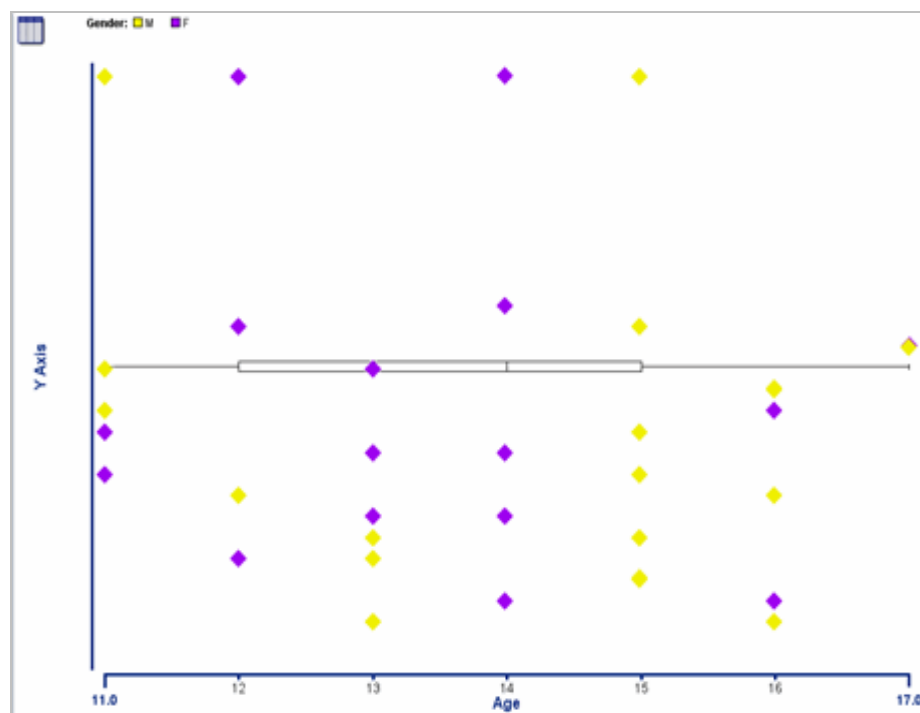
A Box plot visually represents the median, the range and the quartiles of a set of numeric data. In our example, you could use a box plot to look at the distribution of the students' ages in the sleep survey.

To create a box plot on your sleep survey:

1. Click on the **X axis** label and select **Age**.
2. Click on the **Y axis** and select **Clear Selection**.
3. On the **Plot** menu, choose **Box Plot**.

-or-

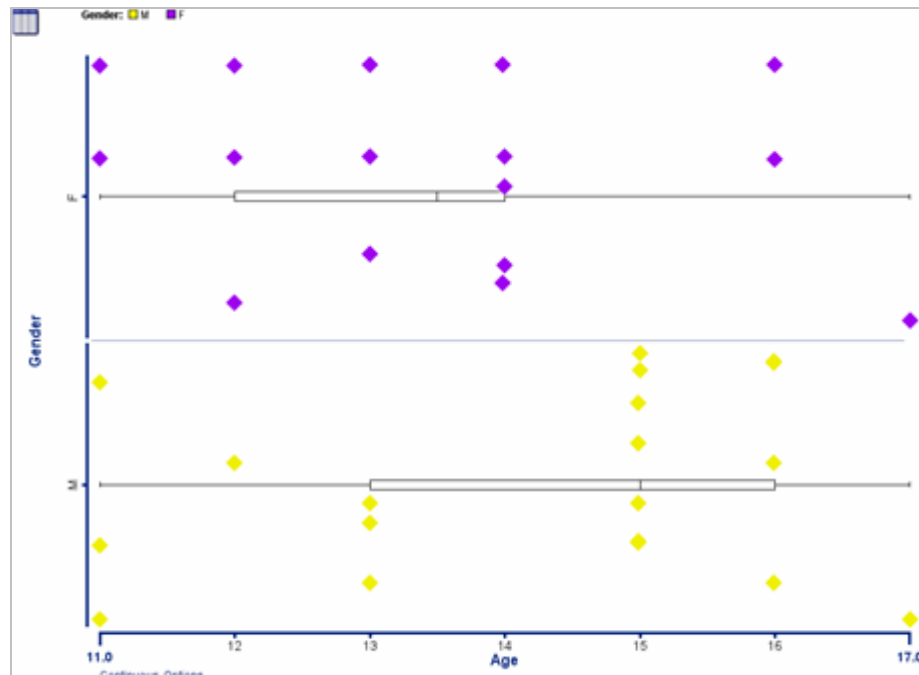
Select **Box Plot Options** from the **Plot menu** and choose **Add numeric labels to box plots**. This will display the 5-number summary (minimum, quartile 1, median, quartile 3 and maximum) on your box plot.



Multiple box plots can be used to show differences in a numeric field across a second categorical (Text or True/False) field. In this example, you could examine differences in age across gender.

- Click on the **Y axis** and select **Gender** from the list of fields.

Now your plot looks like this:



Although both males and females fall in the same range of ages, the plot shows that the males in the middle half are older than the females in the middle half.

Applying the IQR method to a box plot

IQR, or “Interquartile range” is an alternative method for drawing the whiskers of a Box plot. Rather than extending out to the extremes of the data, the whiskers have a length that is proportional to—usually one and one half times—the interquartile range. (The interquartile range is the difference between the upper and lower quartiles.)

To apply the IQR method to a box plot:

1. On the **Plot** menu, choose **Box Plot Options...**
2. Choose the **IQR** radio button.
3. If desired, change the multiplier by typing in the text box next to the IQR radio button.
4. Click **OK**.

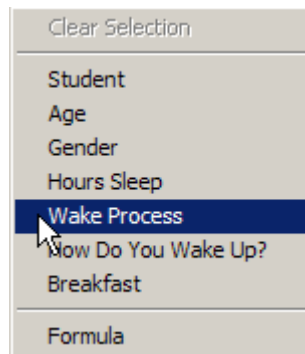
Create a Pie plot

Pie plots show how many records in your table share a common attribute. The pie's sections are determined by the values in the field you assign to the pie, and the icons fall accordingly into these sections. The higher the number of records in a section, the larger the pie section is.

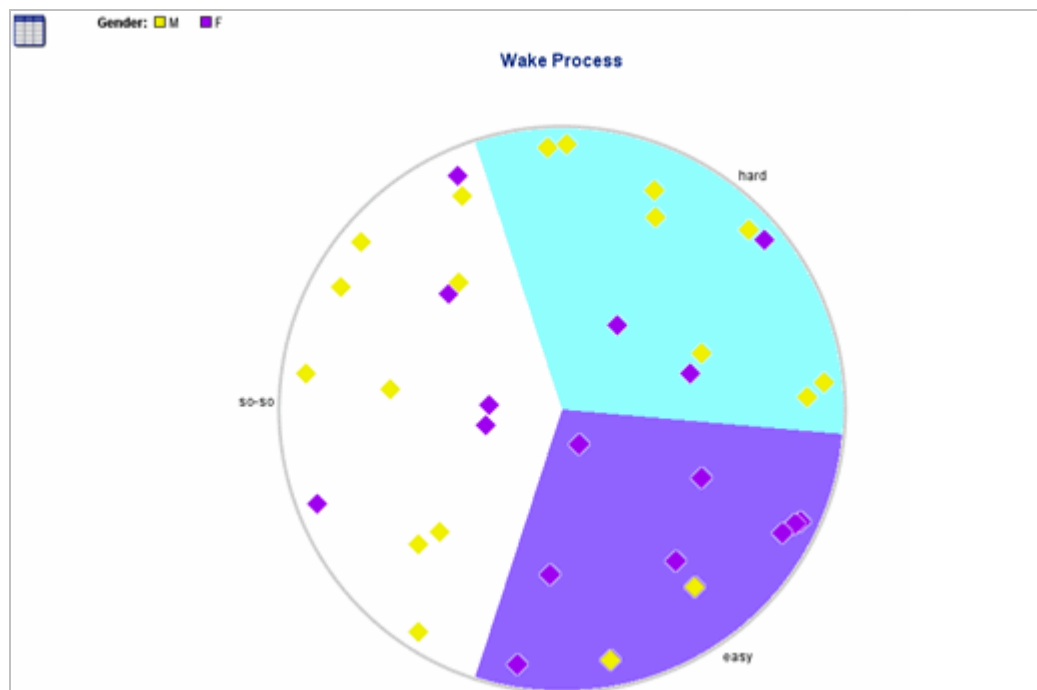
1. On the **Toolbar**, click the **Pie Plot** button .

There aren't any sections because you haven't assigned a field to the pie yet.

2. Click the **Select Field** button above the circle, then select **Wake Process**.



The plot is now divided into sections. The icons are rearranged. Here's what your data looks like now.



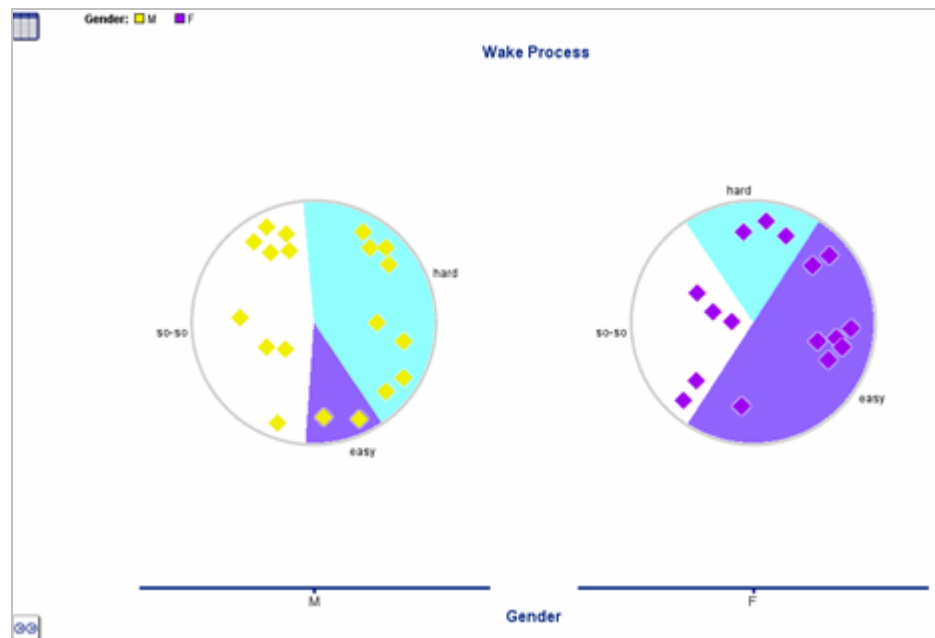
Subdivide a Pie plot

You can split your icons into multiple pies, which you can compare side-by-side. For example, if you wanted to see if there was a significant difference between males and females regarding ease in waking up, you could move the males into one pie and the females in another.

1. On the lower-left corner of the workspace, click the **Plot Options** button , then select the **multiple horizontal pies** option .

An X axis appears beneath the pie.

2. Click the **X Axis** label and select **Gender**.



There is an appreciable difference in ease in waking up between males and females. A higher percentage of boys report that waking up is hard for them.

Save a document

Save your document on a regular basis. To save a document for the first time, or to save a document you've already saved using the current file name, use the Save command.

1. On the **File** menu, choose **Save**.
2. If necessary, navigate to the folder in which you want to save the document.
3. Click the **Save** button.

You'll open this document again in Lesson 3. You can give it a name, such as *My Sleep Survey*, in order to find it easily.

Note: All InspireData documents are automatically saved with an .IDF extension.

Lesson Two: Working in Table View

In Table View, you can directly enter data you have collected, import data that you acquire from outside sources like web sites, and have students enter their own data through the use of surveys. Once you have captured the data, you can modify the formatting and even create new data using formulas.

Working in Table View, you'll learn to do the following:

- Create a new database
- Rename a field
- Add a new field
- Add a new record
- Define fields
- Validate data entered into fields
- Enter record details
- Reorder fields
- Change the default icon
- Import a custom icon
- Create a Survey
- Conduct a Survey
- Create an e-Survey
- Publish an e-Survey
- Take an e-Survey
- End an e-Survey
- View e-Survey results
- View the e-Survey Log

Create a new database

In this lesson, you'll create your own simple sleep survey database.

1. If you quit InspireData after the last lesson, launch the program.
2. From the **InspireData Starter** screen, click **New**.

InspireData will open in Table View.

Rename a field

When you create a new table, you will see that fields are named **Field 1**, **Field 2**, and so on. You can rename the fields.

1. Click on **Field 1** and type **Student**.
2. Click on **Field 2** and type **Age**.
3. Click on **Field 3** and type **Gender**.

Add a new field

New tables start with three fields, but you can always add more if you need to.

1. On the **Toolbar**, click the **Add Field** button .
2. Type **Hours Sleep** to name the new field.
3. Add another new field and name it **Wake Process**.

Add a new record

More records can be created quickly and easily.

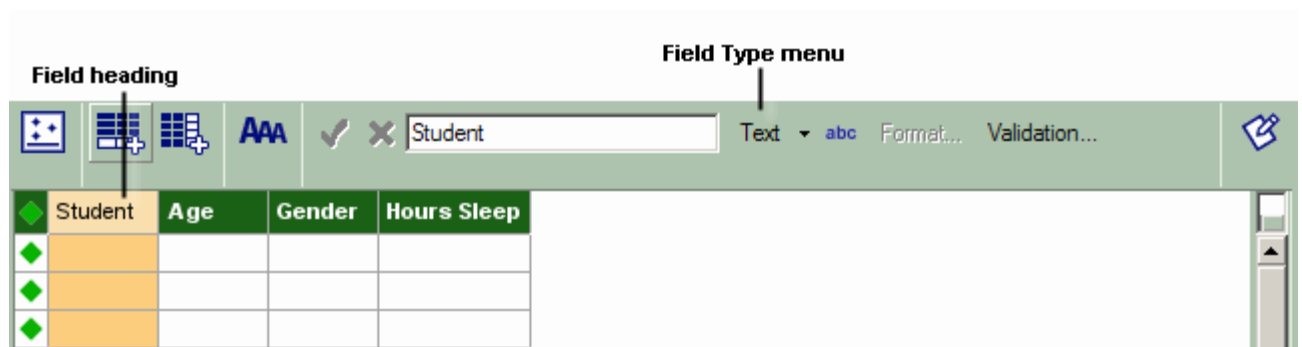
- To create a new record, click the **Add Record** button  on the **Toolbar**
-or-

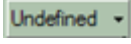
With your cursor in the last cell of the bottom row, press **Tab**.

Define fields

Choosing the kind of data you will put into a field allows you to enter data more quickly. Fields can be restricted to numbers only, text and numbers, dates or true/false values.

The type of data used for a field is called the field type.



1. Select the field named **Student** by clicking on its field heading.
2. On the **Toolbar**, click the **Field Type** menu  and select **Text**.
3. Select the next field, **Age**, by clicking on its field heading.
4. On the **Toolbar**, click the **Field Type** menu and select **Number**.

5. Select the next field, **Gender**, by clicking on its field heading.
6. On the **Toolbar**, click the **Field Type** menu. Select **Text** because this is also a text field.
7. Select the next field, **Hours Sleep**, by clicking on its field heading.
8. On the **Toolbar**, click the **Field Type** menu and select **Number**.

Add the following fields by using the **Add field** button  and continue to select the field type for each one of them:

- **How Do You Wake Up?** (Field type: Text)
- **Breakfast** (Field type: Text)

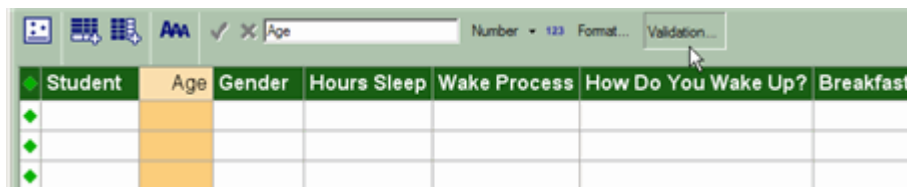
Now any data you enter into these fields will be consistent with the field types you selected.

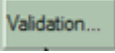
Note: You can edit cell data in either the text entry field on the toolbar or in the cell itself. If you make a mistake while entering text, just select the words you want to change by dragging your cursor over them and then typing your correction.

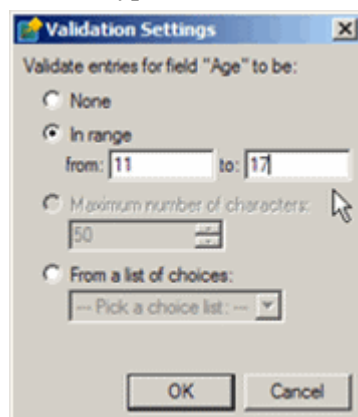
Validate data entered into fields

You can control the data entered into fields using Validation settings. For example, you can use the Validation option to create a drop-down list of choices, allow numbers only within a certain range or specify the number of characters allowed for a field, as well as other validation choices. You could, for example, limit the age range for people in the sleep survey to secondary students only.

1. Click on the field heading for **Age**.



2. Click on the Validation...button .
3. A dialog box will appear. Click the radio button next to **In range**.
4. In the **from** field, type **11**, and in the **to** field, type **17**, then click **OK**.



Now your Age field will accept only numbers between 11 and 17.

To find out more about options for validating fields, see Validation options for data entered into fields on page 73.

Enter record details

Now that your table is set up, you can start entering data.

1. Click in the top left data cell to select it (it will turn orange when selected). Type **A** as an identifier for the first student.
2. Press **Tab** to move to the next cell. Type **14** under Age.
3. Tab to the **Gender** field. Type **F**.
4. Tab to the **Hours Sleep** field. Type **9**.
5. Continue to add sample data to the remaining fields and records, using the table below as a guide.

◆ Student	Age	Gender	Hours Sleep	Wake Process	How Do You Wake Up?	Breakfast
◆ A	14	F	9	easy	naturally	medium
◆ B	12	F	7	easy	naturally	small
◆ C	15	M	6	so-so	person	small

Increase text size for elements in Table View

You can increase the size of the text in cells and the notes field, as well as field names, using the text size control in the top toolbar. This is especially useful when you are working in a group around a computer monitor or when using a projector.

1. On the **Toolbar**, click the **Text Size** button .
2. Choose which of the three sizes works best to view the table.

Reorder fields

To change the order of the fields in your table click on their field headers and drag them.

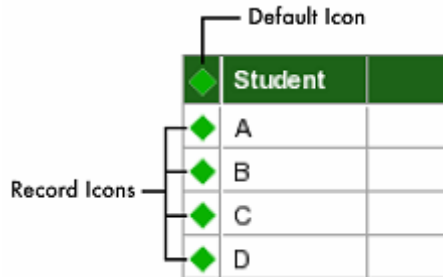
- Click on the field heading of the **Age** field, then drag it to the right of the **Gender** field.

Watch the carat mark  as you drag so you can place the field where you want it. Simply release the mouse button to place it.

◆ Student	Age	Gender	Hours Sleep
◆ A	14	F	09:00
◆ B	12	F	08:30
◆ C	15	M	08:00

Change the default icon

Changing or customizing the icons that appear in your table adds further meaning to your plots. InspireData offers a library of more than 120 icons. Icons selected in Table View will also represent each record when it appears in Plot View.



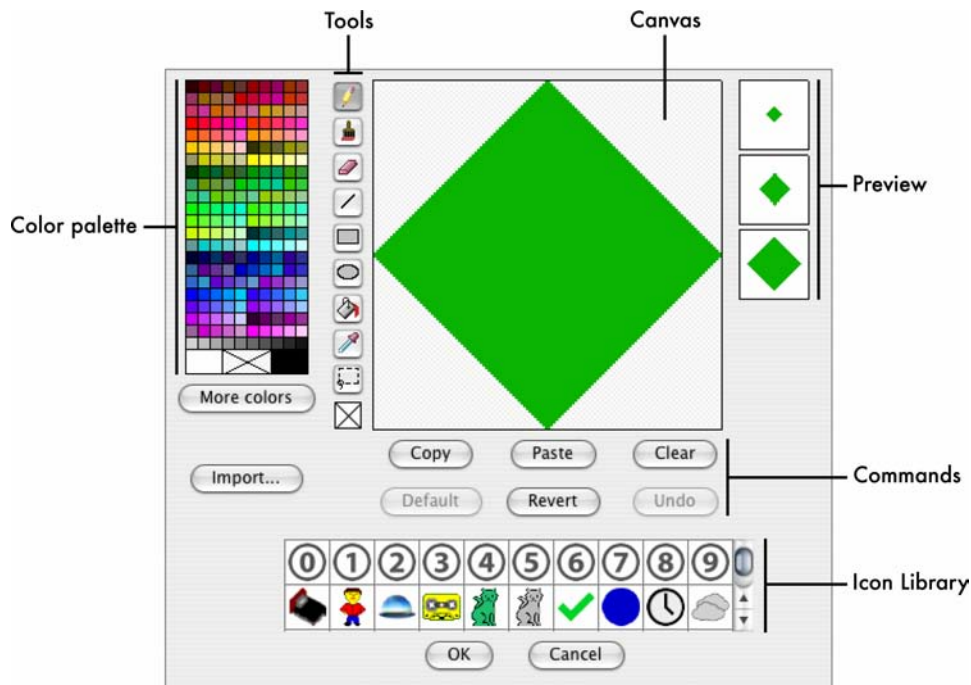
The diagram shows a table with a header row and four data rows. The header row has a green diamond icon in the first column, followed by the text 'Student' in the second column. The data rows are labeled A, B, C, and D in the second column, each preceded by a green diamond icon in the first column. Labels with leader lines point to the 'Default Icon' (the green diamond in the header) and 'Record Icons' (the green diamonds in the data rows).

Default Icon	Student
Record Icons	A
B	
C	
D	

To change the default icon to a custom icon:

1. Double-click the icon in the top-left corner of the table (the default icon).

The Icon Editor appears:



2. Select a different icon from the **Icon Library** or use the paint and draw tools in the Icon Editor to customize your selection.
3. Click **OK** to make the new icon your default icon for the entire table.

All of the existing records with the old default icon will be updated, and all new records will use the new default icon.

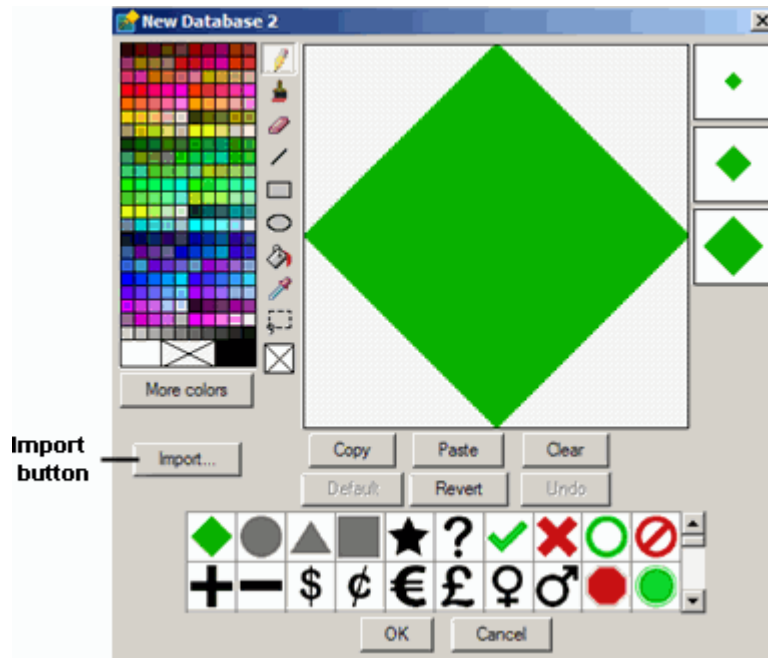
Note: If you want to return to the original version of the icon, click **Revert**.

Import a custom icon

You can import a photograph or graphic from a drawing program or web browser and use it as an icon. Imported graphics are automatically resized to fit into the space available on the canvas of the Icon Editor.

To add a custom icon to Student A:

1. Double-click on **Student A's icon** to open the **Icon Editor**.
2. Click the **Import** button.



3. Locate and click on the file you want to import. InspireData can import most types of image files, including .GIF and .JPG.
4. Click the **Open** button.
5. Click **OK** on the **Icon Editor**.

Note: Use the Icon Editor tools to further customize an imported image.

Create a Survey

A Survey allows you to create new records and enter data for those records using an onscreen form, similar to one you might find on a web page. Using the sleep survey as an example, students can answer the questions you have set up for your fields.

The Survey is especially useful when you have a group of people who aren't familiar with InspireData. With a Survey, they can enter data directly into your document.

You can set up a computer as a Survey station and let students take turns filling out the form. When a Survey is completed, its data is added as a record to your database.

1. On the **Table** menu, select **Edit Survey**.
2. Click the **Use custom title** checkbox.

3. Type **Student Sleep Survey** into the title box.
4. If you want the respondents to have the ability to add their own individual icon, click the **Allow user to select record icons** checkbox.
5. The **Question** area of the form is automatically filled out with the field names. If the field name is sufficient for the respondent to answer the question, use the field name. If not, enter a complete question to guide participants in their responses. InspireData allows you to use up to 256 characters for a question.
6. Locate the questions you'd like to make required, then click the **Required?** checkbox.
When a question is set as required, the words "This value is required" will appear below the question in the Survey. Respondents will not be able to submit their record until this field is filled out.
7. Click **OK**.

Include?	Field	Type	Required?	Question
☒	Student	Text	☒	What is your student code letter?
☒	Gender	Text	☒	Gender
☒	Age	Number	☐	Age
☒	Hours Sleep	Number	☒	How many hours do you sleep on an average night?
☒	Wake Process	Text	☒	What is your wake process (easy, hard, so-so)?
☒	How Do You Wake Up?	Text	☒	How do you wake up in the morning--Alarm? Person? Naturally?
☒	Breakfast	Text	☒	What size breakfast do you eat?

Be sure to launch your survey after you have finished editing it to make sure it appears the way you want it to appear. See [Launch a Survey](#) on page 52.

Note: The Invitation text applies to e-Surveys only. To learn more about e-Surveys, see [Create an e-Survey](#) on page 52.

Launch a Survey

Once you have your Survey set up the way you like, you can start collecting data.

1. On the **Table** menu, choose **Launch Survey**.

2. Ask your participants to come to the computer one at a time.
3. Instruct each participant to fill out the form and click the **Add Record** button  when they are finished.
4. After all of the participants have entered their data, click the **Close** button.
5. On the **File** menu, choose **Save** to save your data.

Create an e-Survey

An e-Survey allows you to collect data by publishing your database to a web site. Respondents need not be in the same location and are able to add responses to your e-Survey as long as they have a connection to the Internet. It is not necessary to have InspireData installed in order to fill out an e-Survey.

Once responses are complete, you can download your database to InspireData and begin analyzing data.

To create an e-Survey:

1. On the **Table** menu, choose **Edit Survey**.

2. Click the **Invitation text** check box at the top of the dialog box.

Edit survey prompts for Student Sleep Survey:

☒ Allow user to select record icons

☒ Use custom title: Student Sleep Survey

☒ Invitation text: Be sure to fill out my e-Survey on sleep habits for our class!

Include?	Field	Type	Required?	Question
☒	Student	Text	☒	What is your student code letter?
☒	Gender	Text	☒	Gender
☒	Age	Number	☐	Age
☒	Hours Sleep	Number	☒	How many hours do you sleep on an average night?
☒	Wake Process	Text	☒	What is your wake process (easy, hard, so-so)?
☒	How Do You Wake Up?	Text	☒	How do you wake up in the morning--Alarm? Person? Naturally?
☒	Breakfast	Text	☒	What size breakfast do you eat?

OK Cancel

3. Type an invitation to participate in your e-Survey, such as, "Be sure to fill out my e-Survey on sleep habits for our class!"

When your e-Survey has been published to the web and accessed by respondents, the wording you type here will be visible at the top of the web page.

4. Make any modifications to your questions or required answers, as needed. (See Create a Survey on page 52 for details on working with questions in your survey.)
5. Click **OK**.

Publish an e-Survey

Once your e-Survey has been published, it will be available as a form to fill out on a web site. e-Survey respondents will need to know the web URL and the Survey ID to take your survey. Respondents simply use their web browser to load and fill out the e-Survey.

To publish an e-Survey:

1. From the **Table** menu, choose **Publish e-Survey**.
2. When the dialog box appears, click the **Publish** button.

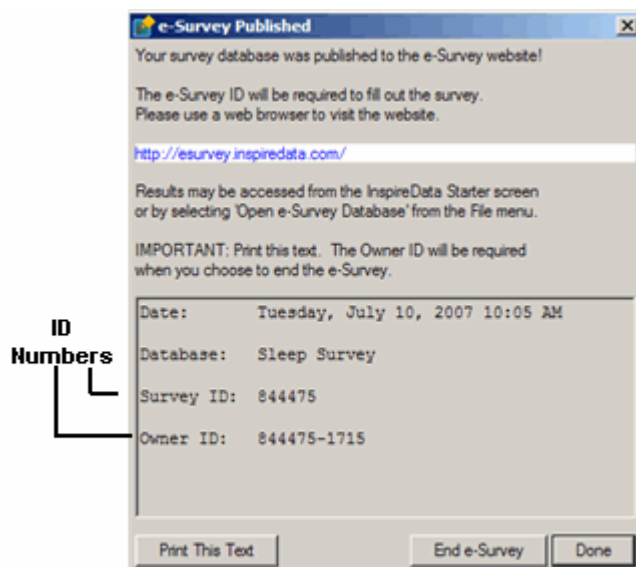
Publish e-Survey

Publishing your survey will upload this survey database to the e-Survey website.

The survey can be filled out with a web browser. You must give people the e-Survey ID for them to take the survey. You may view the results by opening the e-Survey database using InspireData.

Edit Survey Cancel Publish

When the second dialog box appears, as shown below, you will see both a Survey ID and an Owner ID for your e-Survey:



Those who participate in your e-Survey will need the Survey ID.

To end your e-Survey you must know the Owner ID.

Since this is the only location where the Owner ID is given to you, it is a good idea to print this dialog. To print it, click on the **Print This Text** button at the bottom of the dialog.

You may also end your e-Survey directly from this dialog by choosing the **End e-Survey** button. To read more about ending e-Surveys, see End an e-Survey on page 56.

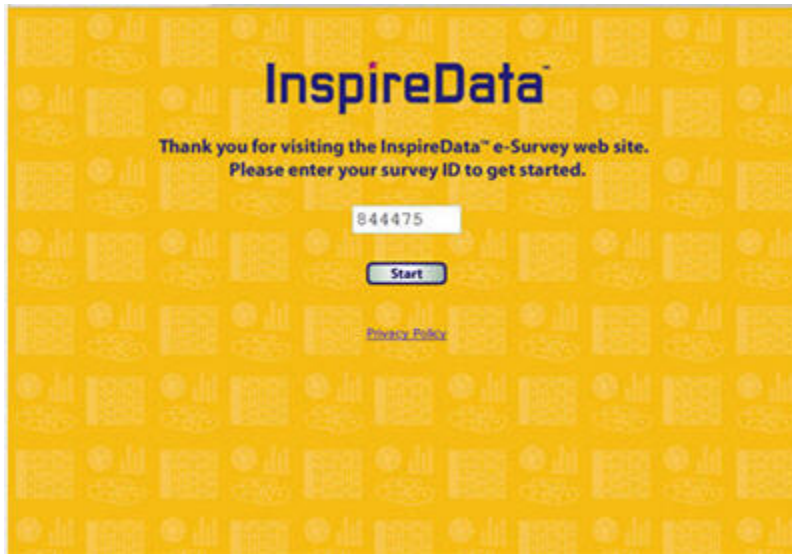
3. Click Done.

Take an e-Survey

To take an e-Survey you must have access to the Internet.

To take an e-Survey:

- Navigate to **<http://esurvey.inspiredata.com>** using your web browser, then enter your **Survey ID** and click **Start**.

The image shows the InspireData e-Survey landing page. It has a yellow background with a repeating pattern of small icons. The text reads: "InspireData", "Thank you for visiting the InspireData™ e-Survey web site. Please enter your survey ID to get started.", a text input field containing "844475", a "Start" button, and a "Privacy Policy" link.

When you click start, your e-Survey opens, as shown:

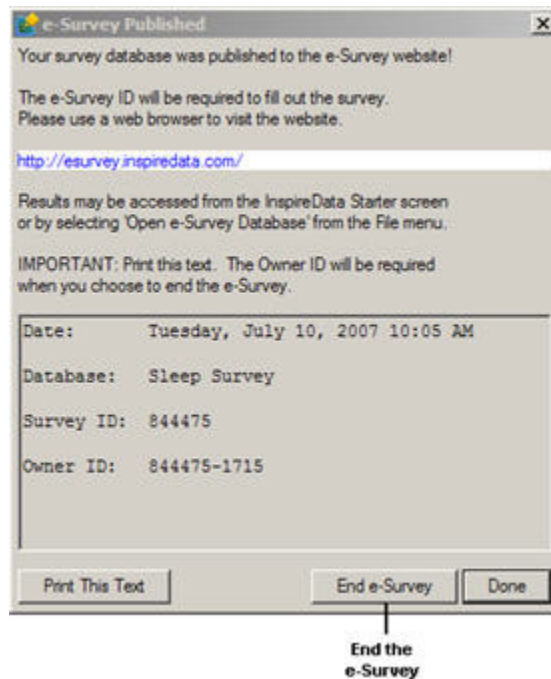
The image shows the "Student Sleep Survey" form. It has a white background with a yellow border. The text reads: "InspireData", "e-Survey", "Student Sleep Survey", "Be sure to fill out my e-Survey on sleep habits for our class!", "Click the **Submit** button at the end when you finish.", a green diamond icon, "Attach a custom logo:", a "Browse..." button, "What is your student code letter?", "Required", "Gender", "Required", "Age", "Required", "How many hours do you sleep on an average night?", "Required", and "What is your wake process (easy, hard, so-so)?".

Once you have filled out the survey, click **Submit** to save the data. All participants who fill out the e-Survey and click Submit will have their records added to your database.

To print your e-Survey, see [Printing a Survey or e-Survey](#) on page 191.

End an e-Survey

You can end an e-Survey immediately after it is created by clicking **End e-Survey** in the same dialog you use to create one, as shown:

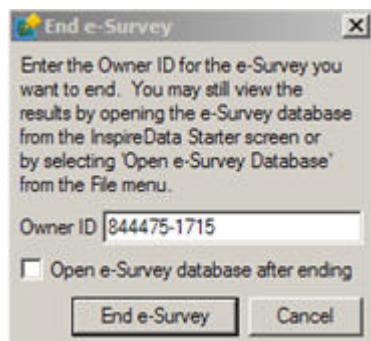


If you end it before data has been entered, no entry will appear in the e-Survey log. See View the e-Survey Log on page 58 for more information.

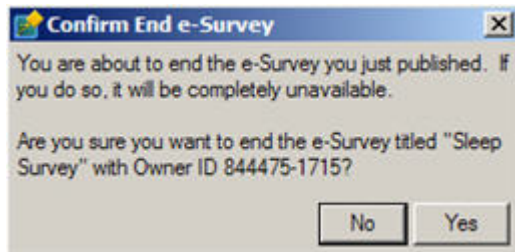
If you have received all the data you need and want to stop accepting contributions to your e-Survey, you must end it from the File menu.

To end an e-Survey:

1. From the **File** menu, choose **End e-Survey...**
2. Enter the Owner ID for the e-Survey you want to end (you were provided with the Owner ID when you originally set up your e-Survey).



3. Click on the **End e-Survey** button.
4. When asked to confirm, choose **Yes** to end the e-Survey.



After the survey has ended, no one will be able to add data to the e-Survey even if they know the Survey ID. However, the database will still be available to download from the InspireData Starter screen using the e-Survey button.

Note: e-Survey databases can still be downloaded even after the e-Survey has ended and will remain available for a period of time determined by Inspiration Software ®.

View e-Survey results

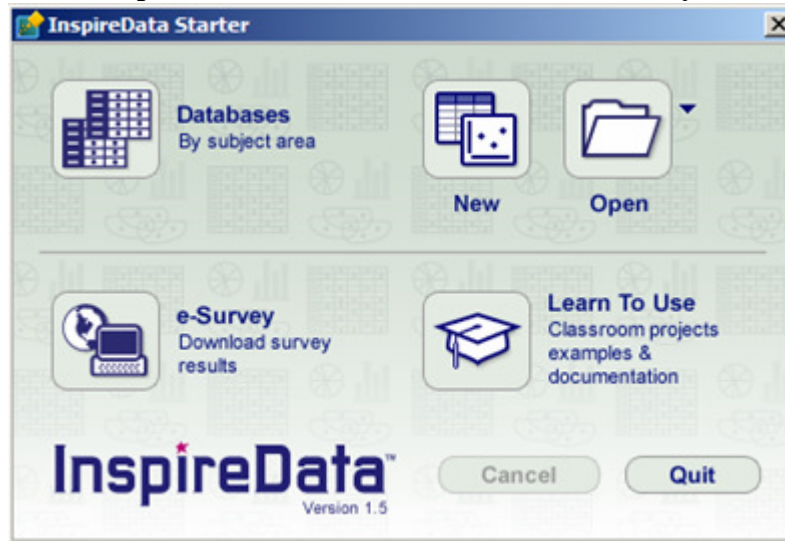
The results of an e-Survey can be viewed at any time by opening the database with InspireData. Once data has been downloaded, it is contained in a new database, which can be modified in any way and saved. You can do this even when participants are still adding records to your e-Survey.

Each time you or anyone else downloads the data, a new InspireData file is created. Plots and slides present in the database at the time it was published will also be available, in addition to e-Survey records.

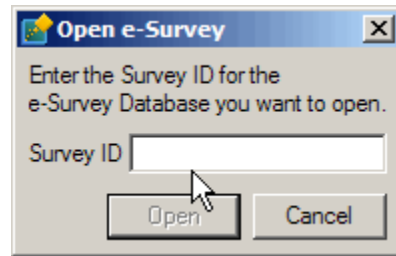
When you no longer want contributions to the database, you can end your e-Survey.

To view results of an e-Survey:

1. On the **InspireData Starter** screen, click on the **e-Survey** button.



2. Enter the **Survey ID**.

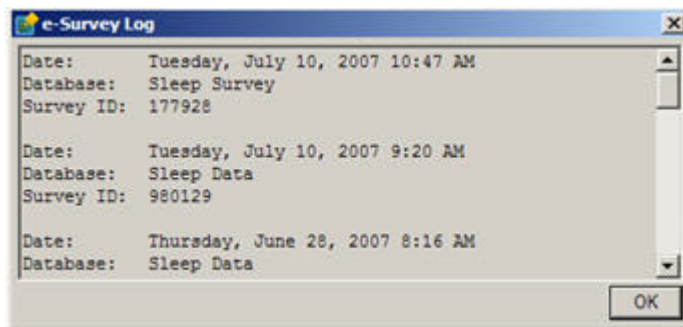


To bring your e-Survey to a close, see End an e-Survey on page 56.

View the e-Survey Log

Every time an e-Survey is published, it is recorded in the e-Survey log. This log is associated with the user currently logged on to the computer. The log contains the date the e-Survey was published, the database name and the Survey ID.

- From the File menu, choose **View e-Survey Log...**



The most recent surveys are listed first.

Lesson Three: Presenting with a Slide Show

A Slide Show is a great way to document and present work. Each slide captures a “live” view of the data, which means that you can continue to change and work with the captured plots when viewing your slides.

In this lesson, you will build a slide show as you learn to do these things:

- Capture a slide
- Name a slide
- Reorder a slide
- Add notes
- Make changes to a slide
- Delete a slide
- Present a Slide Show

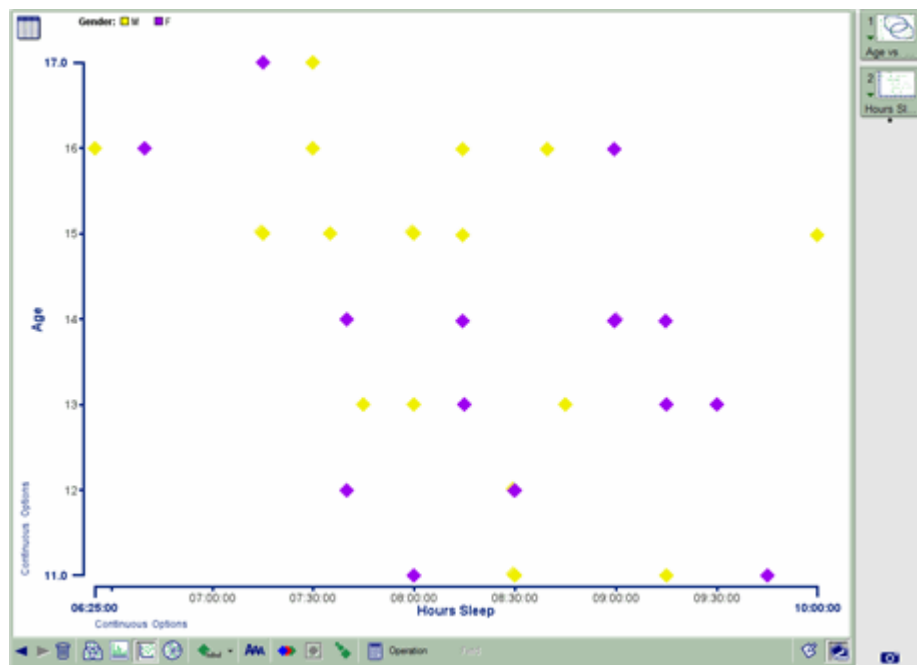
Capture a slide

When you capture a slide, you're saving a plot, which you can then retrieve at any time and use in a slide presentation of your data.

1. Open the *My Sleep Survey* document you saved in Lesson One. Your document should open in Plot View with the two pie charts displayed. If it does not, click the **Plot View** button on the **Toolbar** to switch to Plot View.
2. On the right side of the **Toolbar**, click the **Slide Sorter** button . The Slide Sorter will open on the right side of the screen.
3. On the **Toolbar**, click the **Venn Plot** button.

When you save a document, InspireData saves each plot mode's last state. When you switch to the Venn plot, the plot you created in Lesson One will be preserved.

4. Click the **Capture Slide** button  on the Slide Sorter. A new slide appears in the Slide Sorter.
5. On the **Toolbar**, click the **Axis Plot** button.
6. Click the **Capture Slide** button on the Slide Sorter. A second slide appears in the Slide Sorter.



Name a slide

InspireData automatically creates a name for new slides based on the fields you assigned to axes on the plot, but you can rename a slide at any time.

1. Click the **Slide Options** button ▼ on the second slide, then select **Rename** from the menu that appears.
2. Type **Hours of sleep vs. Age** into the text box that appears, then click **OK** to rename the slide.

Renaming a slide does not change the content or order of the slide in the Slide Sorter.

Reorder a slide

You can move slides up and down the Slide Sorter to change their order.

1. Click and drag the **Hours of Sleep** slide to the top of the Slide Sorter.
When you move a slide, the other slides will move to make room for the slide you are dragging, indicating where the moved slide will be placed.
2. Release the mouse button.

Add notes

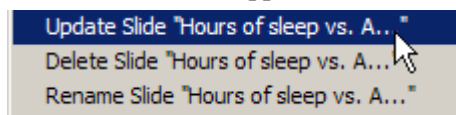
To capture thoughts about the data and communicate findings, use notes.

1. On the **Toolbar**, click the **Note** button .
The *Notes area* appears at the bottom of your screen.
2. Type your comments about the slide.

Make changes to a slide

You can update a slide at any time after the slide has been captured. Always update your slides after adding or editing a note; otherwise the changes you made will be lost.

- Click the **Slide Options** button on the *Hours of Sleep vs. Age* slide, then select **Update Slide** from the menu that appears.



Updating a slide will overwrite the old slide. If you want to keep both your old slide and the changes you've made, create a new slide by clicking the **Capture Slide** button  on the **Slide Sorter**.

Delete a slide

You can delete a slide at any time.

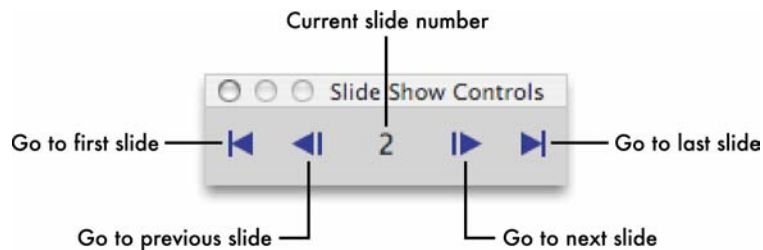
1. Click on the slide you want to delete.
2. Press the **Delete** key.

Present a Slide Show

Slides are saved with your work when you save your document. When you are ready to present your slides, use the Slide Show controls.

- On the **Slide Show** menu, choose **Start Slide Show**.

The first slide in the **Slide Sorter** displays the **Slide Show Controls**. If you click the **Next Slide** button, you will see the second slide on the controls, and so on for all of your slides.



You can also present your slide show by clicking on each slide in the Slide Sorter. However, using the Slide Show Controls keeps the Slide Sorter hidden and makes more screen space available for your plots.

Lesson Four: Plotting time series and more

In this lesson, you'll plot time series data and explore some of the many other plotting options available. You'll learn to:

- Plot time series data
- Add color to time series data
- Group time series data
- Change plot colors
- Clear a plot
- View previous plots
- Add a plot title
- Combine categories
- Compute summary data

Plot time series data

You can display and even animate data that changes over time (time series data).

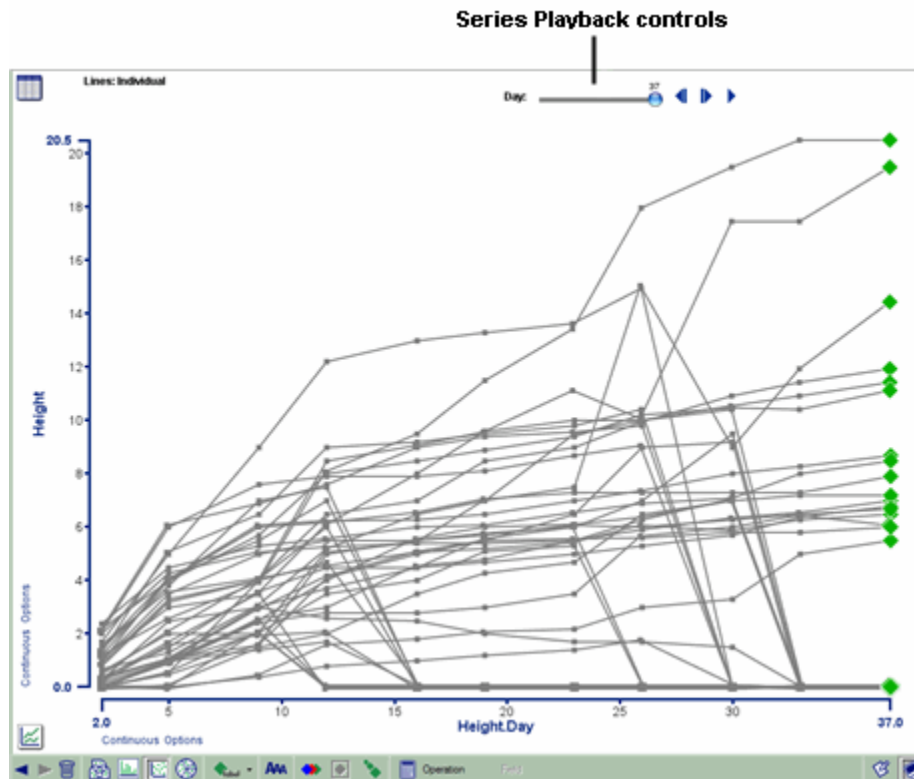
1. On the **File** menu, point to **Open Database**. Choose **Science**, then select **Plant Growth**.

The table contains data about plants in an experiment, including growing conditions, height measurements and so on. Notice that the **Height** field contains subcolumns representing the number of days elapsed in the experiment. Each subcolumn contains a measurement for a plant's height on that day. This is the data that will be used to plot your time series.

Class	Owner	Condition	Height												Number of Leaves on Day 23
			2	5	9	12	16	19	23	26	30	33	37		
◆ Warberg	CE	Control	1.1	2.5	4	8	9.5	11.5	13.5	18	19.5	20.5	20.5	4	
◆ Warberg	CE	Control	0.5	2	4	6.5	7	8.5	9	10	11	11.5	12	4	
◆ Warberg	CE	Control	0.3	1.6	3.5	6	8	9.6	10	10	10.5	11	11.5	4	
◆ Warberg	CE	Control	0	0.5	4	8.5	9	9.5	11.2	10	17.5	17.5	19.5	4	
◆ Warberg	CE	Control	0	0.5	2	5	5.5	7	7.5	15	9	12	14.5	4	
◆ Warberg	EG	24 Hours of	2.1	4	5.7	8	8.5	8.9	9.4	10.3	10.5	10.5	11.2	2	
◆ Warberg	EG	24 Hours of	0.9	3.3	4	6	0	0	0	0	0	0	0	0	
◆ Warberg	EG	24 Hours of	1.3	3.8	7	7.5	0	0	0	0	0	0	0	0	
◆ Warhorn	FG	24 Hours of	1.5	4	6	6.2	6.3	6.5	7	7.3	8	8.3	8.7	2	

2. On the **Toolbar**, click the **Plot View** button  to switch to Plot View.
3. On the **Toolbar**, click the **Axis Plot** button .
4. On the lower-left corner of the workspace, click the **Plot Options** button  and select **Instant Plot: Height by Day**.

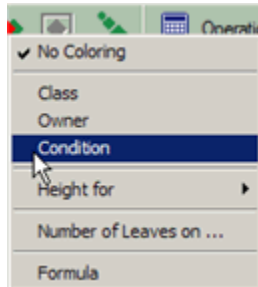
A new time series graph is created. The **Series Playback** controls animate the time graph, showing how the heights of the plants change over time and revealing correlations.



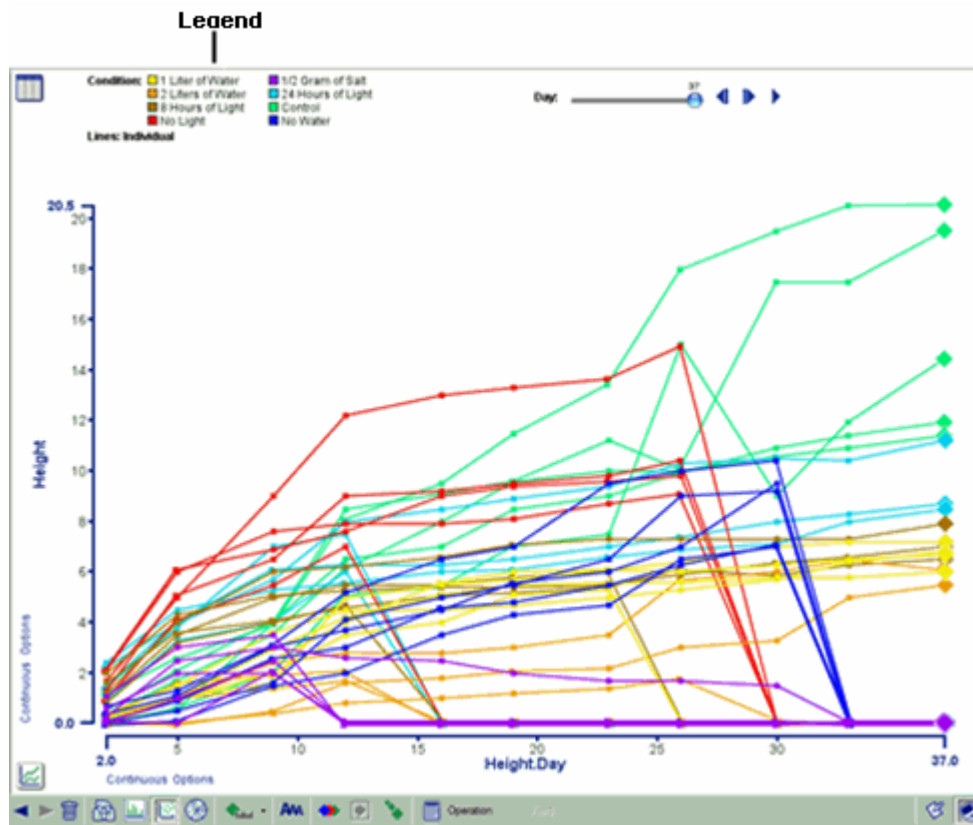
Add color to time series data

Because the plot you created shows all gray lines, it's difficult to see what the data means. However, you can add color to your plot.

- On the Toolbar, choose the **Color by field** button  and select **Condition**.



Now your plot looks like the one below. Notice that you now have a legend at the top that defines the colors in the plot.

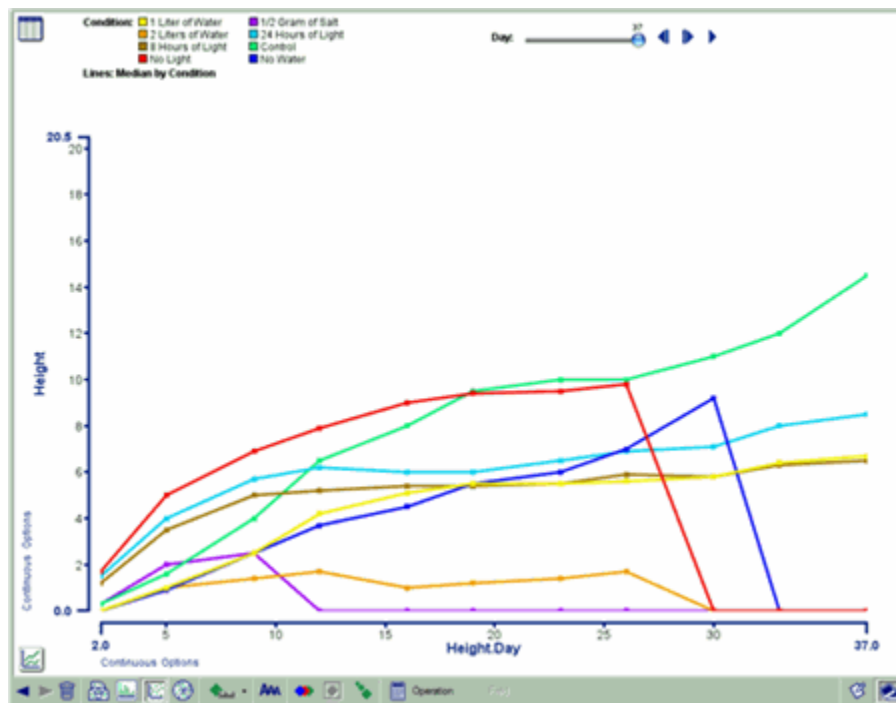


Group time series data

Time series graphs display every record individually by default, but you can also group the records together to make trends in the data easier to see. For example, you can group together records based on growing conditions.

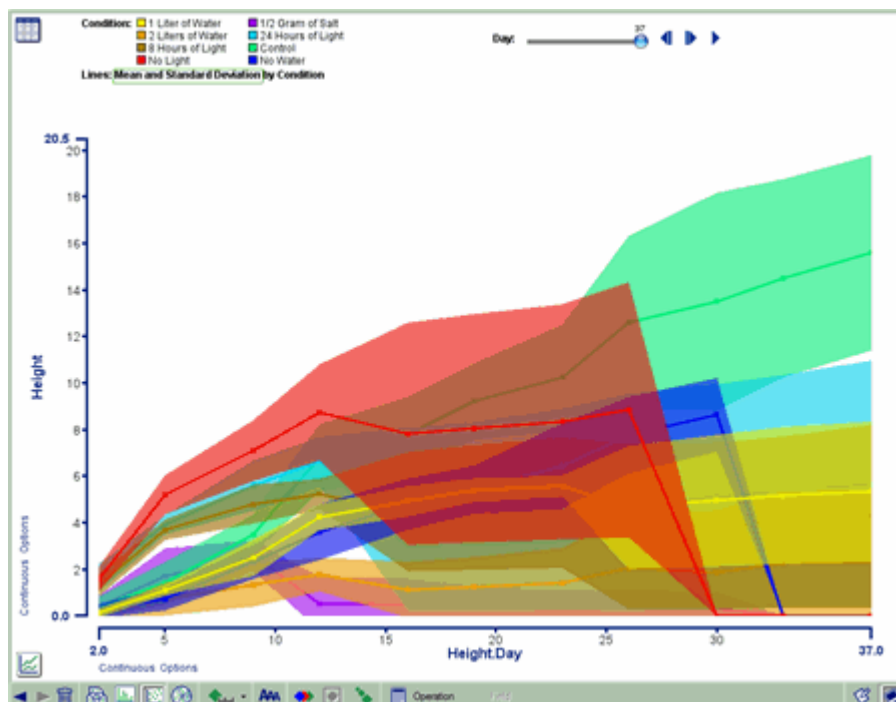
- On the lower-left corner of the workspace, click the **Plot Options** button , choose **Group Lines**, then select **Median**.

Now, instead of every record being shown, eight lines represent the median values of the plants in each of the eight growing conditions.



2. Click the **Plot Options** button again, choose **Group Lines**, then select **Mean and Standard Deviation**.

This adds areas of translucent shading to the group lines, representing the standard deviation for the plants in each of the growing conditions.



Change plot colors

Customizing the colors used to represent your data helps you clearly differentiate one set of records or lines from another.

In the current plot, each grouping is colored according to its growing condition. InspireData makes it easy to change the colors of these items.

1. On the **Legend**, click the **red square** to the left of *No Light*.

A menu with color choices appears.



2. Select a new color to change the color of the grouping on the plot.

Clear a plot

When you clear a plot, only the plot currently displayed on your screen is affected.

- On the **Toolbar**, click the **Clear** button .

The menu you see will give you options to change your settings:

- *Clear this Plot* maintains the plot type but clears the settings, such as axis title, etc. (To clear color, click on **Color by field** and select **No Coloring**.)
- *Reset plotting* returns the icons to a Free plot.
- *Unmark All* takes away labels, colors and the marks around icons you have selected.

View previous plots

You can jump backward or forward through your plots at any time, just like you would with previously viewed pages in a web browser.

- On the **Toolbar**, click the **Back** button  to view your previously created plots, and click the **Forward** button  to return to the most recently created plot

Add a plot title

You can add a title to your plot at any time.

1. On the **Plot** menu, select **Plot Title**.
2. Type **Growth Comparison by Treatment Condition**.
3. Click the **Accept** button  to add the title to your plot.

To make changes to an existing title, click directly on the title in your plot and type your changes. Be sure to click the Accept button to keep your changes.

Combine categories

You might want to group your data by combining two related categories into one. For example, you can combine the two growing conditions with varying amounts of water into one supercategory called *1 or More Liters of Water*.

1. Click on the **Axis label** of the X axis and choose **Condition**.
2. Click on the Y axis and choose **Height**.
3. Click the **2 Liters of Water** category label and drag it onto the **1 Liter of Water** category label.

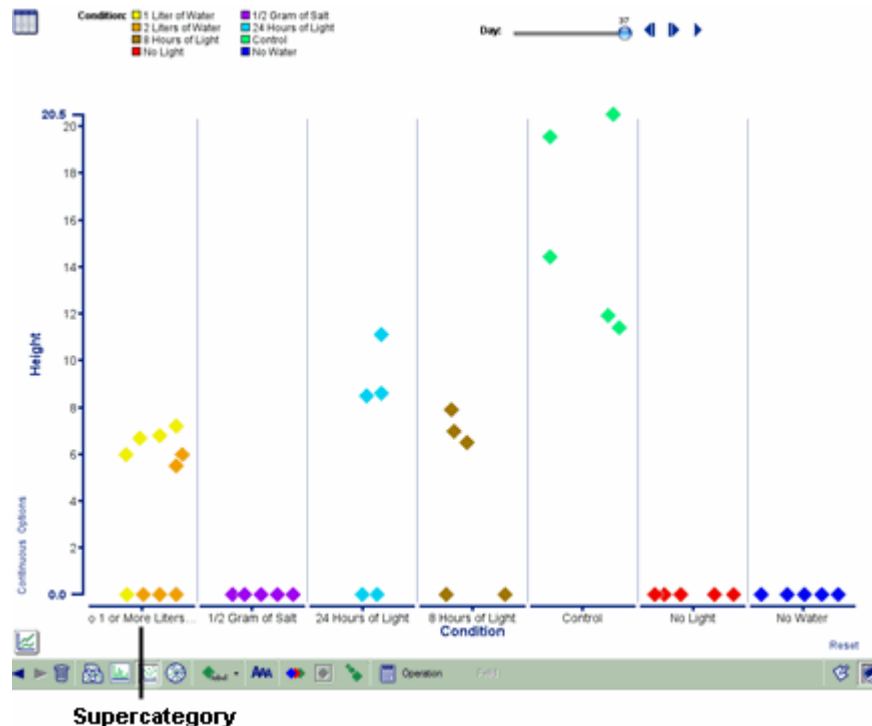


When a green box appears around the **1 Liter of Water** label, release the mouse button.

Use the dialog box to give a name to your supercategory, such as *1 or More Liters of Water*.

4. Click **OK**.

The 2 Liters of Water and 1 Liter of Water categories have now been combined into a supercategory.



You can easily return the plot to the way it looked before you created the supercategory.

1. Click the small diamond $\diamond$ next to the **1 or More Liters of Water** category label.

2. Choose **Dissolve Supercategory**.

Compute summary data

You can calculate summary data for your plots, including count, total, mean, median and smallest or largest data points. For example, in the plant growth plot you could calculate the mean height for each growing condition.

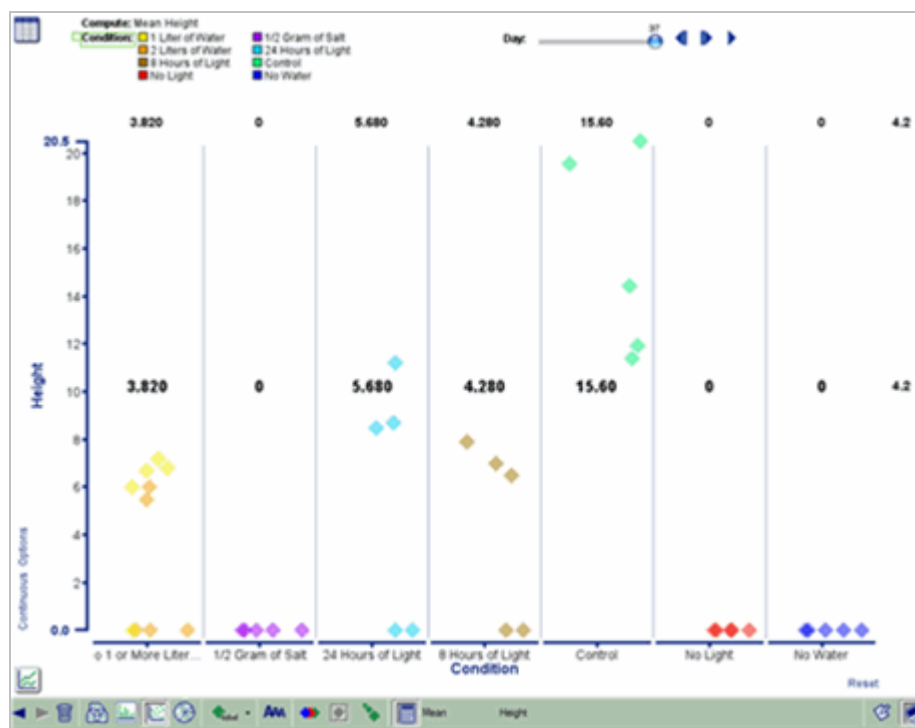
1. On the **Toolbar**, click the **Compute** button to turn on computations.

The question marks (??) that appear on your plot show where the calculations will be displayed when you finish specifying what data you want to calculate.



2. Click the **Operation** button on the **Toolbar**, then select **Mean**.

3. To specify which field to calculate the mean of, click the **Field** button on the **Toolbar**, then select **Height**.



Because this plot includes time series data, you can use the series playback controls to display the height of the plants on different days. As you move through the different days, computations will be updated automatically.

Congratulations!

You've finished the InspireData tutorial. Now that you know the basics of this versatile tool, you're ready to explore further on your own.

Chapter 3: Creating a table

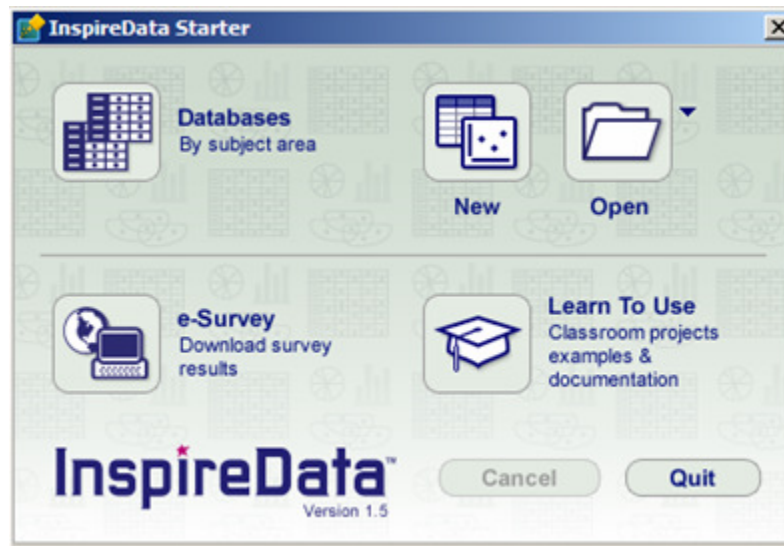
Name	Gender	Favorite Season
Annika	female	Summer
Zachary	male	Winter
Caren	female	Summer
Lisa	female	Spring
Louis	male	Summer
Justin	male	Autumn
Steve	male	Autumn
Lori	female	Summer
Ryan	male	Spring

You will record and edit the data you collect in a table. Tables are composed of fields (columns) and records (rows). The fields you create determine the different kinds of data you will record. For example, if you were collecting information about the favorite season for a class of students, your table might contain a field for the student's name, gender and favorite season.

Records contain the data itself. When you start recording the data about your group of people, you make a record for each person.

To create a new table or add a table to an existing database:

- From the **InspireData Starter** screen, choose **New**.



-or-

If you have already opened a table, from the File menu, choose **New...**

New records always start in Table View.

Tools for creating tables

Commonly used functions can be found in the Toolbar. In Table View, the Toolbar appears at the top of the screen. Some of the tools listed below will appear or be hidden depending on what you have selected in your table.

Click ...



Plot View

... to do this

Go to Plot View.



Add Record

Add a record to your table.



Add Field

Add a field to your table.



Cell Data

Edit the contents of a cell.

The appearance of this field will vary depending on your current selection.



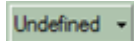
Accept

Accept a change made in the Cell Data box.



Reject

Reject a change made in the Cell Data box.



Field Type Menu

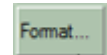
Change the field type.

The appearance of this menu will vary depending on your current selection.



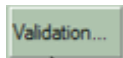
Text Size Control

Change text size for field names, cell contents and notes.



Field Format

Determine the display of data in numeric, date, time and true/false fields.



Validate Field

Control how data entered in a field is validated.



Note

Add, view or hide a note for the currently selected object.

Working with fields

When you record data in your table, you work with fields.

By default, new tables contain 3 fields. As you expand your table, you can add fields, rename, resize, reorder them and more.

Selecting a field

Selecting an entire field enables you to do many useful operations such as copying, pasting and reordering.

To select a field:

- Click on the header of the field you want to select. The header is the darker-colored cell at the top of a field.

Click here to select Field 1

	Field 1	Field 2	Field 3
◆			
◆			
◆			

The field will turn orange to indicate that it is selected.

Renaming a field

You can change the name of a field at any time. A field name can include any combination of letters, numbers, special characters and spaces. Short, simple names are generally more convenient.

To rename a field:

1. Click on the field heading of the field you want to rename.
2. Type a new name for the field.
3. Press **Enter** (Windows) or **Return** (Macintosh).

-or-

Click the **Accept** button ✓ to accept the changes or the **Reject** button ✗ to reject the changes.

Note: To rename multiple fields, press the **Tab** key after renaming the first field. This will select the next field to the right. Begin typing to rename that field or press **Tab** again to move to the next field.

Adding a field

As you build and expand your table, you may need to add more fields.

For example, if your table contained information about the hair and eye color of a group of people and you wanted to also record their height, you could add a new field to record that data.

To add a new field:

- On the **Toolbar**, click the **Add Field** button .

-or-

On the **Table** menu, choose **Add Field**.

A new field is automatically named *Field* with a number after it, such as **Field 1**. Simply select the generic field heading name, then type to rename the field. Press **Enter** (Windows) or **Return** (Mac) when you are finished.

Resizing a field

The width of a field is automatically set to the width of the field heading when you are creating a field for the first time, but you can resize it.

To resize a field:

1. Position the cursor over the right edge of the field header for the field you want to resize. The cursor will change to a resize cursor .
2. Drag the cursor to the right or left to increase or reduce the width of the field.

Adding a Note to a field

Use Notes to leave yourself a reminder, call out particularly important data, or record the source of certain fields.

To add a Note to a field:

1. Select the field you want to add a note to by clicking on its field heading.
 2. On the **Toolbar**, click the **Note** button .
- The *Notes area* will appear above your table.
3. Type your note into the Notes area.

When you add a note to a cell, field or record, a small triangle  appears on in the upper-right corner of that object.

Reordering fields

As your table grows, you may want to change the order of the fields.

To reorder fields:

1. Click the header of the field you want to move, then drag it to the new location.
While you drag, the field remains in its original position until you release the mouse button. You can tell where the field will be inserted by watching the carat mark  as you drag.
2. When the field is in the place you want it, release the mouse button.

Copying and pasting a field

You can copy a field and its data and then paste it into another location in the same table, or you can paste it into a table in another InspireData document, or even into a document in another application.

To copy and paste a field:

1. Click on the field heading of the field you want to copy.
2. On the **Edit** menu, choose **Copy**.
3. If you are pasting the field into another location in the same table, choose **Paste** from the **Edit** menu.
4. If you are pasting the field into another location in a different InspireData document or into a document in another application, choose **Paste** from the **Edit** menu in the new location.

You can paste a field into a specific place. Simply select the field to the left of where you want the pasted field to be inserted before pasting.

You can also paste fields from other applications into your document. For more information, see Copying and pasting data from another InspireData document or other applications on page 187.

Note: You can hold the **Ctrl** (Windows) or **Command** (Macintosh) key and press **C** to copy, and hold **Ctrl** (Windows) or **Command** (Macintosh) key and press **V** to paste. For more information on keyboard shortcuts, see Using keyboard shortcuts on page 193.

Creating new fields using copied data

You can copy data from another InspireData table or document, or copy data from a document created in another application such as Microsoft® Excel, then paste it into your table.

To create new fields using copied data:

1. Select the data you want from the other document.
2. On the **Edit** menu, choose **Copy**.
3. Open the InspireData document you want to paste the data into.
4. On the **Edit** menu, choose **Paste Special**, then choose **Add Fields to Table**.

Pasted fields are added to the right side of your table. To paste a field into a specific place, select the field to the left of where you want the pasted field to be inserted before pasting.

Overwriting the data in a field with copied data

You can overwrite the contents of a field with data copied from another table, document or application.

To overwrite the data in a field with copied data:

1. Select the field you want to copy.
2. On the **Edit** menu, choose **Copy**.
3. Select the field you want to paste the data into.

4. On the **Edit** menu, choose **Paste Special**, then select **Paste In**.

The data in the selected field is replaced with the copied data.

Deleting a field

When a field is no longer needed, you can delete it. The data contained within it is also deleted.

To delete a field:

1. Click on the field heading of the field you want to delete.
2. On the **Edit** menu, select **Delete** or **Cut**.

-or-

Press the **Delete** key.

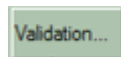
If you delete a field by mistake, you can restore it by choosing **Undo** from the **Edit** menu.

Validation options for data entered into fields

You can use the Validation options to set controls on ranges of numbers, the maximum number of characters allowed in a field and more. You can even customize the kind of validation you want for a field.

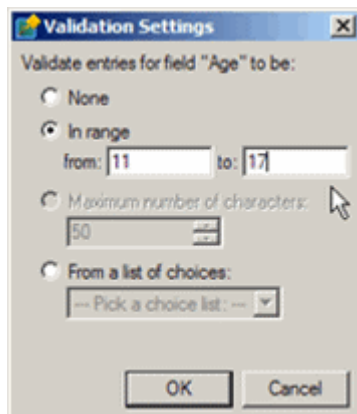
The options available depend on the data type of the field you have selected. For True/False, Link and Formula fields, Validation will not be an option.

Choose a field that you have set to a certain data type, then click the **Validation** button

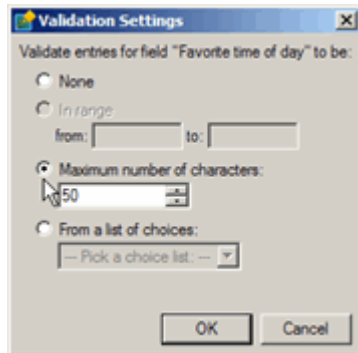


- By clicking the radio button next to **In range**, you can choose a range of number for a field limited to numbers only, or you could choose a range of dates, times, or datetimes.

A range allows numbers from a minimum value through a maximum value, or from an earlier time or date to a later time or date.



- If you click the radio button next to **Maximum number of characters**, you can limit the number of characters allowed in a text field.



- You can customize responses by clicking the radio button next to **From a list of choices**.

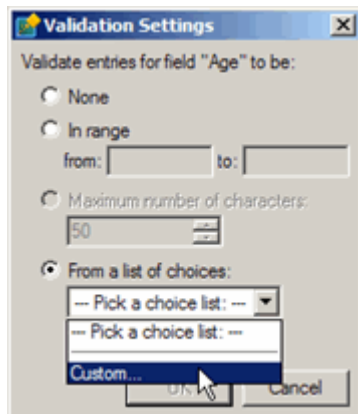
First, select a field for which you want to determine a very limited set of answers. In the table below, for example, you might want Breakfast responses to be only small, medium, large or none.

Select the field you want to customize, then click on the **Validation** button.

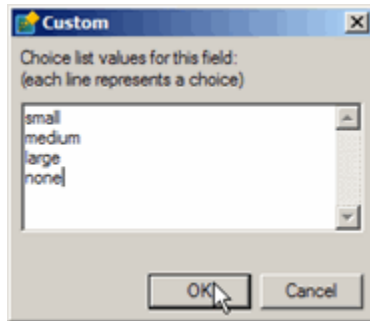
 A screenshot of a data table interface. The table has columns: Student, Age, Gender, Hours Sleep, Wake Process, How Do You Wake Up?, and Breakfast. The 'Breakfast' column is highlighted in orange. Above the table, there is a toolbar with buttons for 'Text', 'abc', 'Format...', and 'Validation'. A mouse cursor is pointing at the 'Validation' button.

Student	Age	Gender	Hours Sleep	Wake Process	How Do You Wake Up?	Breakfast

Click the radio button next to **From a list of choices**. Selecting **Custom...** will allow configuration of a list for numbers, dates, datetime, time or text fields. Custom lists are only available for the field for which they are configured.

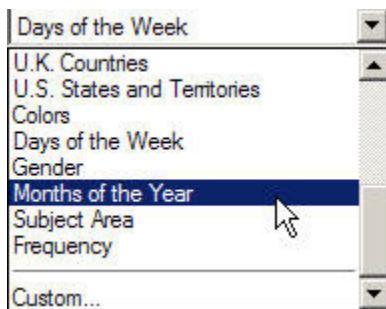


When you click on **Custom...** you will see another dialog that asks you to specify the numbers or the text that you want. Type your specifications into the box and click **OK**.



Now participants can only choose a response from this customized list.

- If you wish to use the same custom list across multiple fields, two options are available: You can copy and paste the list text from one field into the custom list for another field, or you can copy the entire field, paste it and then make any changes you need to the pasted field.
- You can also choose from a list of pre-defined choices, such as countries, colors, gender, days of the week, months of the year and more.

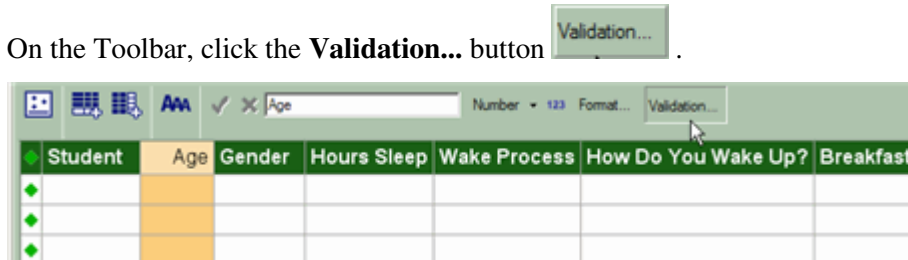


Validation of data entered into fields

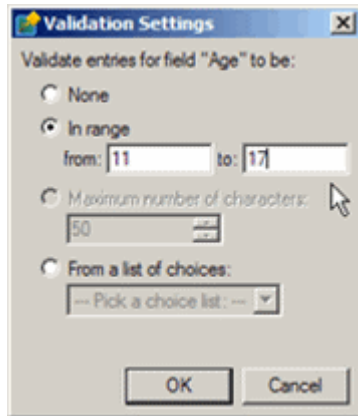
You can control the data entered into fields using Validation settings. For example, if you wanted only numbers within a range from 1-10 in a field, you can use the Validation option to allow numbers only in that range. Or, you could decide how many characters you want to allow for a specific field, as well as other validation choices. Validation choices are available depending on the field type you have chosen.

To create validation settings for a field:

1. Click on the field you want to validate by clicking on its field heading.
2. On the Toolbar, click the **Validation...** button.



3. Make your selection in the dialog that appears, as shown:

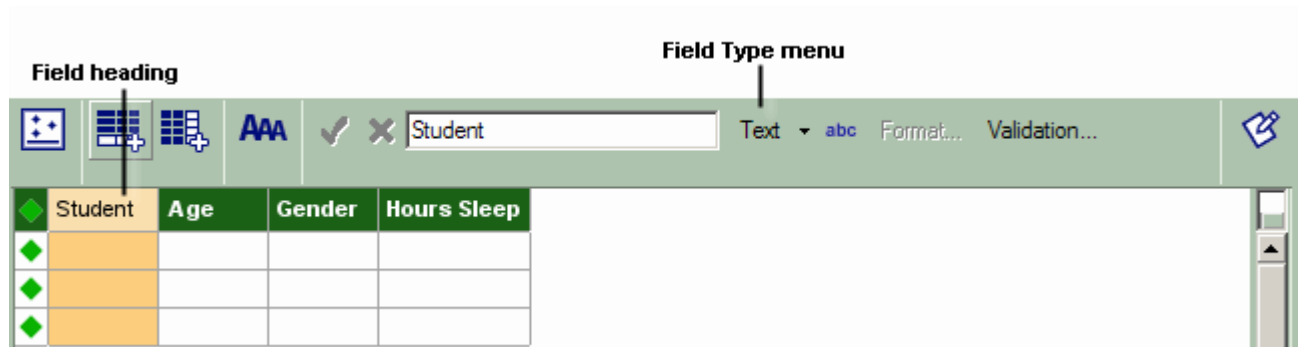


4. Click **OK**.

Setting the data type of a field

You can control the way InspireData interprets and formats the data in your table.

Use the Field Type menu to set the data type. Setting the data type restricts the field so that it can contain numbers only, text and numbers, date, datetime, true/false values, a link to a field in another table or a formula. Once you have selected the type of data you want in a specific field, InspireData will not allow a different kind of data to be entered into that field. You will get an error message if, for example, you try to put True/False values into a field that has been restricted to numbers only.



Once you set the field type, you can change how InspireData validates the entry of data and formats the display of data. For more about validation, see [Validation of data entered into fields](#) on page 75.

For more about formatting a field, see [Formatting data in a field](#) on page 80.

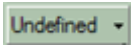
You can also define field data by using a formula, and you can link one table's data to the data in other tables. For more information see [Defining the data in a field using a formula](#) on page 79 and [Linking data in multiple tables](#) on page 119.

You can also create structured fields using the Field Type menu. For more information, see [Organizing data using structured fields](#) on page 122.

Limiting the data type of a field to numbers only

Whole numbers, decimals and scientific notation can be entered in a number field. For example: 15, 3.14, 1.0832E+12.

To limit the data type of a field to numbers only:

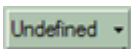
1. Click on the field heading of the field you want to change to a number field.
2. On the **Toolbar**, click the **Field Type** menu  and choose **Number** from the list.

When a field is set to the Number data type, a Number icon  appears in the Toolbar when that field or a cell in that field is selected.

Limiting the data type of a field to text and numbers

You can enter letters and characters—including spaces—into a Text field. For example: Robert, 7412 SW 31st Ave, Blue, (555) 555-5555, north/south/east/west.

To limit the data type of a field to text and numbers only:

1. Select the field you want to change by clicking on its field heading.
2. On the **Toolbar**, click the **Field Type** menu  and choose **Text** from the list.

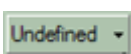
When a field is set to the Text data type, a Text icon  appears in the toolbar when that field or a cell in that field is selected.

Note: Numbers, such as those in a street address, are treated as characters when you enter them into a Text field, so they cannot be used in formulas.

Limiting the data type of a field to true/false

True/False fields allow only two possible data values: true or false. These may alternatively be entered and displayed as T/F, Yes/No, or Y/N.

To limit the data type of a field to true/false:

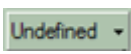
1. Select the field you want to change by clicking on its field heading.
2. On the **Toolbar**, click the **Field Type** menu  and choose **True/False** from the list.

When a field is set to the True/False data type, a T/F icon  appears in the toolbar when that field or a cell in that field is selected.

Limiting the data type of a field to dates only

A specific date can be entered into a date field. Dates must include a day, month and year. For example: 5/1/1970; May 1, 1970.

To limit the data type of a field to dates only:

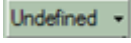
1. Select the field you want to change by clicking on its field heading.
2. On the **Toolbar**, click the **Field Type** menu  and choose **Date** from the list.

When a field is set to the Date data type, a Date icon  appears in the toolbar when that field or a cell in that field is selected.

Limiting the data type of a field to times only

Times entered into a time field must include an hour and minute, and can also include a second. For example: 1:31 PM, 16:06, 5:45:11 AM.

To limit the data type of a field to times only:

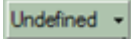
1. Select the field you want to change by clicking on its field heading.
2. On the **Toolbar**, click the **Field Type** menu  and choose **Time** from the list.

When a field is set to the Time data type, a Time icon  appears in the toolbar when that field or a cell in that field is selected.

Limiting the data type of a field to dates and times only

Date and time information you enter into datetime fields must include a day, month, year, hour and minute, and can also include a second. For example: 4/24/01 2:41 PM; May 31, 1989 8:21:30 AM.

To limit the data type of a field to dates and times only:

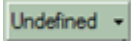
1. Select the field you want to change by clicking on its field heading.
2. On the **Toolbar**, click the **Field Type** menu  and choose **Datetime** from the list.

When a field is set to Datetime, a Datetime icon  appears in the toolbar when that field or a cell in that field is selected.

Converting the data in a field to another data type

As you develop and expand your table, you may need to change the data type of a field to another type.

To convert the data in a field to another data type:

1. Click on the field heading of the field you want to change to another data type.
2. On the **Toolbar**, click the **Field Type** menu  and select the data type you want to change to.

If you have data in the field you are converting, InspireData will convert the data to the new field type, if possible.

Note: If you change a field type by mistake, you can reverse the change by choosing **Undo** from the **Edit** menu.

Defining the data in a field using a formula

Formulas are useful when one of your fields can be calculated from the data in one or more other fields.

This field contains manually entered data...

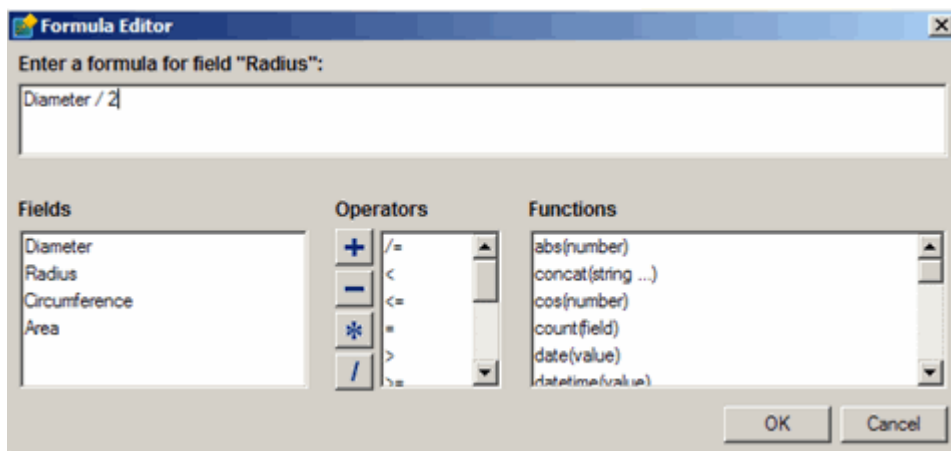
...which can be used to calculate the data in these fields.

	Diameter	Radius	Circumference	Area
◆	2.1	1.05	6.59736	3.463614
◆	3.5	1.75	10.9956	9.62115
◆	4	2	12.5664	12.5664
◆	5.4	2.7	16.96464	22.90226
◆	5.9	2.95	18.53544	27.33977

For example, if your table contains diameter measurements of a group of circles, you could use formulas to automatically calculate the radius ($diameter / 2$), the circumference ($diameter * 3.1416$), the area ($3.1416 * radius^2$) and more.

To use a formula to calculate the values in a field:

1. Select the field you want to change to a formula by clicking on its field heading.
2. On the **Toolbar**, click the **Field Type** menu Undefined ▾ and choose **Formula** from the list.



The **Formula Editor** appears showing a list of the field headings in your table, as well as operators and functions.

3. Enter your formula either by double-clicking on all but the +, -, * and / symbols or by typing your formula into the dialog box.

Formulas follow the standard rules for order of operations. Use parentheses to group operations that you want to happen first. For example, where $3 + 3 * 2$ would equal 9, $(3 + 3) * 2$ would equal 12.

If InspireData cannot produce a result based on the formula you enter, an error message will appear beneath the Formula box, and you can try again.

4. When you are finished, click **OK**.

The cells in your formula field will be filled in automatically with calculated data.

Note: For more detailed descriptions on how to use formulas, see Formula functions on page 198 and Formula operators on page 196.

Formatting data in a field

Formatting data in a field lets you control how you want the data in numeric, date, time and true/false fields to be displayed. Formatting will change only the way the data looks, not the data itself.

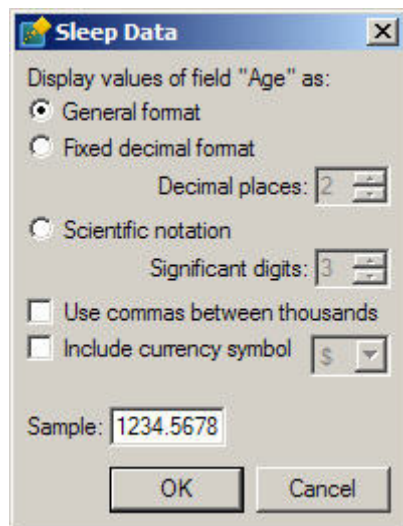
For example, if your field had the number 186282.397 in it, you could change the field format to display the number with commas (186,282.397), with only one decimal place (186282.4), in scientific notation (1.9E+05), as currency using dollar, pound or Euro (\$186,282.40, £186,282.40, or €186,282.40) and more.

To change a field's format:

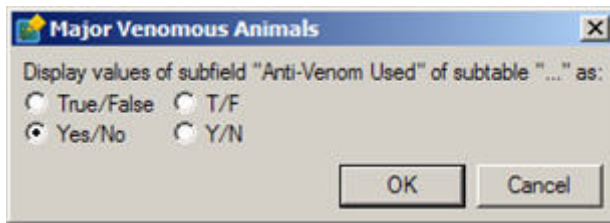
1. Click on the **field heading** of the field you want to format.
2. On the **Toolbar**, click the **Format** button  to format your field type.
3. Make your changes, then click **OK**.

The formatting options you see will depend on the data type of the field you selected.

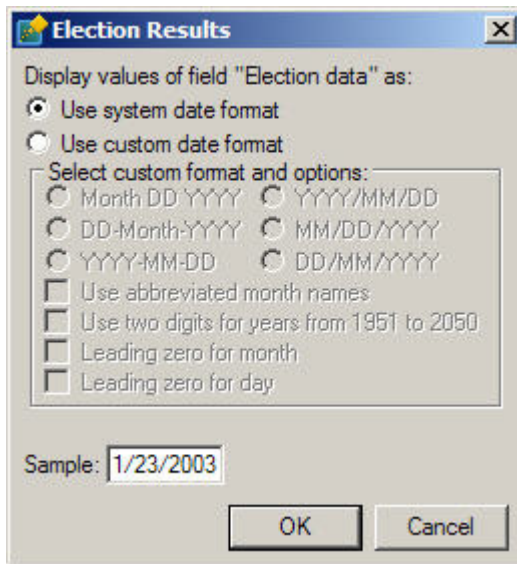
Number fields:



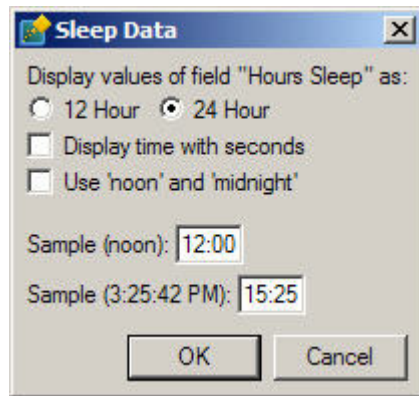
- General format: Displays numbers up to 10 decimal places.
- Fixed decimal format: Displays a specific number of digits after the decimal place for each number, e.g., with the fixed decimal set at four: 1.2345, 1.0000, 3.1415. This will align all of the decimals in a column.
- Scientific notation: Displays a number in scientific notation with a specified number of significant digits, e.g., with specific digits set at four: 1.235E+03.
- Commas: Display commas between thousands (1,234,567).
- Currency symbol: Add a currency symbol (dollar, pound or Euro: \$, £ or €).

True/False fields:

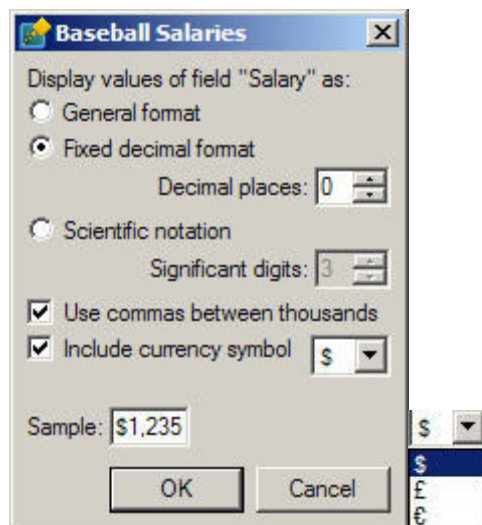
- True/False fields can be displayed as: True/False, T/F, Yes/No and Y/N.

Date fields:

- "Use system date format" determines the ordering of the month and day as specified by the short date format set on your operating system. However, the year is always set to the four digit format, i.e., 2007, not 07, regardless of your system settings.
- Date fields can be displayed as: Month DD YY (November 25 2004), YYYY/MM/DD (2004/11/25), DD-Month-YYYY (25-Nov-2004), MM/DD/YYYY (11/25/2004), YYYY-MM-DD (2004-11-25), or DD/MM/YYYY (25/11/2004).
- Month names can be abbreviated, when applicable (Jan, Feb, Mar, etc.).
- Year names can be displayed as two digits (98, 99, 00, 01, etc.).
- Months and days can be displayed as two digits, when applicable (08, 09, 10, 11).

Time fields:

- Times can be displayed as 12 hour (5:30 PM) or 24 hour (17:30).
- Times can be displayed with seconds (5:30:15 PM) or without (5:30 PM).
- 12:00 and 24:00 can be displayed as Military time, "Noon" and "Midnight".

Currency fields:

- Choose from a dollar sign (\$1234.56), pound sign (£1234.56) or Euro (€1234.56).

Note: Datetime fields contain the same options as both the date and time fields.

Working with records

You will record the data you've collected in the records, or rows, on your table.

Adding a record

As you collect more data, you will need to add more records.

To add a new record:

- On the **Toolbar**, click the **Add Record** button .

-or-

On the **Table** menu, choose **Add Record**.

New records are usually added at the bottom of your table. However, the new record will appear at the top if your table is sorted in ascending order and at the bottom if in descending order.

Selecting a record

Selecting an entire record enables you to do many useful tasks, including copying, pasting and deleting.

To select a record:

- Click the icon of the record you want to select. The icon is the small graphic on the far left of a record.

Click here to select this record —

	Field 1	Field 2	Field 3
◆			
◆			
◆			

The record will turn orange to indicate that it is selected.

Selecting multiple records

Many of the things you can do to a single record can also be done to multiple records.

To select multiple records:

- Click on the icon of the topmost record you want in your selection.
- Hold the **Shift** key, then click the icon of the bottom-most record you want in your selection.

The records you clicked on—plus all the records in between—will turn orange, indicating they have been selected.

To select multiple individual records:

- Click on the icon of one of the records you want in your selection.
- Hold the **Control** key (Windows) or **Command** key (Macintosh) and click the icon of each record you want to select.

All the records you clicked on will be selected.

Adding a note to a record

You can write notes to leave yourself a reminder, call out particularly important data, or cite the source of certain records.

To add a note to a record:

- Select the record you want to add a note to by clicking on its icon.
- On the **Toolbar**, click the **Note** button .

The *Notes area* will appear above your table.

- Type your note into the Notes area.

When you add a note to a cell, field or record, a small triangle  appears on in the upper-right corner.

Deleting a record

You can delete records from your table at any time.

To delete a record:

1. Click on the icon of the record you want to delete.
2. On the **Table** menu, choose **Delete Record**.

-or-

Press the **Delete** key.

Note: If you delete a record accidentally, choose **Undo** from the **Edit** menu.

Copying and pasting a record

You can copy a record and paste it into another location, such as another InspireData document or a document in another application.

To copy and paste a record:

1. Click on the icon of the record you want to copy.
2. On the **Edit** menu, choose **Copy**.
3. Go to the table or document you want to paste the record into.
4. On the **Edit** menu, choose **Paste**.

Pasted records are usually added at the bottom of your table. However, if your table is sorted, the duplicated record will appear in sorted order.

You can also paste records from other applications into your InspireData document. For more information, see Copying and pasting data from another InspireData document or other applications on page 187.

Note: You can hold the **Ctrl** (Windows) or **Command** (Macintosh) key and press **C** to copy, then hold **Ctrl** (Windows) or **Command** (Macintosh) key and press **V** to paste. For more shortcuts, see Using keyboard shortcuts on page 193.

Duplicating a record

If you have a set of records with the same data or with data that differs very slightly, duplicating these records is faster than typing each one.

To duplicate a record:

1. Click on the icon of the record you want to duplicate. (The icon is the leftmost cell in a record, usually a diamond )
2. On the **Table** menu, choose **Duplicate Record**.

Duplicated records are usually added at the bottom of your table. However, if your table is sorted, the duplicated record will appear in sorted order.

Creating new records using copied data

You can copy records from another InspireData document or a document created in another application such as Microsoft Excel, then paste it into your table.

To create new records using copied data:

1. Copy the data you want from the other document or application.
2. Open the InspireData document you want to paste into.
3. On the **Edit** menu, choose **Paste Special**, then choose **Append to Table**.

Pasted records are usually added at the bottom of your table. However, if your table is sorted, the pasted records will appear in sorted order.

Changing the name and color scheme of a table

Changing the name and color scheme of a table is especially useful when your document contains multiple tables. Changing the color scheme changes the colors of the tab, toolbar, field headings and default icon (if you haven't specified a custom default icon), as well as the default coloring of bars on Bar charts in Stack plots.

To change the name and color scheme of a table:

1. On the **Table** menu, choose **Table Properties**.
2. Type the new name into the **Name** text box.
3. Choose a new color scheme from the **Color Scheme** menu.
4. Click **OK**.

Copying and pasting an entire table

You can copy and paste the entire contents of a table into another table, document or application.

Copying and pasting an entire table:

1. Select the table you want to copy by clicking the icon in the upper-left corner of the table. (The icon is usually a diamond )
2. On the **Edit** menu, choose **Copy**.
3. Go to the table or document you want to paste the table into.
4. On the **Edit** menu, choose **Paste**.

Undoing a change to your table

Changes you make to the fields, records and data in a table—such as adding, editing or deleting—can be undone.

To undo a change to your table:

- On the **Edit** menu, choose **Undo**.

To redo a change made by undoing, select **Redo** from the **Edit** menu.

Note: You can undo all changes made to your document since the last time you saved it.

Chapter 4: Entering and editing data in a table

InspireData provides a variety of tools to help you enter and edit the data in your table.

If your document is in Plot View, switch to Table View. Click the Table View button  in the upper-left corner of the workspace.

Selecting a cell

A record is divided into cells. These cells contain the data for the fields. Selecting a cell enables you to add, delete or copy and paste data.

To select a cell:

- Click the cell you want to select.

The cell will turn orange to indicate that it is selected.

Selecting multiple cells

You can select a rectangular block of cells spanning multiple fields and records. Many of the things you can do to a single cell can also be done to multiple cells.

To select multiple cells:

1. Click and hold the mouse button on the upper left-most cell you want to select.
2. Drag your mouse to the bottom right-most cell you want to select. While you drag, the cells you are selecting turn orange.

Click here...

	Name	Gender	Height (in)	Wingspan (in)	Foot Length (in)	Difference (in)	Own Feet Tall
♂	Soren	male	54	55	9	-1.00	6.00
♂	Aaron	male	59.5	61	8.25	-1.50	7.21
♀	Lily	female	53.5	57.5	8	-4.00	6.69
♂	Ricardo	male	58.5	60	8.75	-1.50	6.69
♀	Elizabeth	female	59.5	60.5	8.75	-1.00	6.80
♂	Corbin	male	56.75	60	10.25	-3.25	5.54
♀	Desiree	female	63.75	64.5	9	-0.75	7.08
♂	Rashad	male	57	60	9.5	-3.00	6.00
♀	Maraulith	female	58.5	58.5	8.75	-2.00	6.69

...then drag here to select a block of cells.

3. When all the fields you want to select are selected, release the mouse button.

You can also start dragging from the upper right-most, bottom left-most or bottom right-most cell.

Note: When your selection contains more than five cells horizontally or vertically, a cell counter will appear while you drag, indicating how many cells will be selected.

Increasing text size for elements in a table

You can increase the size of the text in cells and the notes field, as well as field names, using the text size control in the top toolbar. This is especially useful when you are working in a group around a computer monitor or when using a projector.

1. On the **Toolbar**, click the **Text Size** button .
 2. Choose which of the three sizes works best to view the table.
- Default size:



Name	Gender	Favorite Season	Number of Siblings
Annika	female	Summer	0
Zachary	male	Winter	1
Caren	female	Summer	1
Lisa	female	Spring	2
Louis	male	Summer	2
Justin	male	Autumn	3
Steve	male	Autumn	1
Lori	female	Summer	4
Bryan	male	Spring	1
Alissa	female	Winter	0

Medium size:



Name	Gender	Favorite Season	Number of Siblings	Age
Annika	female	Summer	0	
Zachary	male	Winter	1	
Caren	female	Summer	1	
Lisa	female	Spring	2	
Louis	male	Summer	2	
Justin	male	Autumn	3	
Steve	male	Autumn	1	
Lori	female	Summer	4	
Bryan	male	Spring	1	
Alissa	female	Winter	0	

Large size:



Name	Gender	Favorite Season	Number of Siblings
Annika	female	Summer	0
Zachary	male	Winter	1
Caren	female	Summer	1
Lisa	female	Spring	2
Louis	male	Summer	2
Justin	male	Autumn	3
Steve	male	Autumn	1
Lori	female	Summer	4
Bryan	male	Spring	1
Alissa	female	Winter	0

Entering data into a cell

A record is divided into cells, one per field. You enter your data into the cells of a record.

To enter data into an empty cell:

1. Select the cell you want to add data to by clicking on it.
2. Type your data into the cell.
3. When you are finished, press **Enter** (Windows) or **Return** (Macintosh).

-or-

Click the **Accept** button  to accept the changes or the **Reject** button  to reject the changes.

Editing data in a cell

You can update or edit the contents of a cell at any time.

To edit the data in a cell:

1. Click on the cell you want to edit.
2. Click on the cell again to enter into text editing mode.

-or-

Click the **Cell Data** box on the **Toolbar**.

3. Type your changes.
4. Press **Enter** (Windows) or **Return** (Macintosh).

-or-

Click the **Accept** button  to accept the changes or the **Reject** button  to reject the changes.

Keyboard shortcuts are useful when entering and editing text. For more information, see Using keyboard shortcuts on page 193.

Note: To replace the data in a cell instead of editing it, select the cell, then begin typing.

Clearing the data in a cell

You can clear the data from the cell or cells to remove inaccurate or irrelevant data.

To clear the data in a cell:

1. Click on the cell or cells you want to clear.
2. On the **Edit** menu, choose **Clear**.

If your selection contains multiple cells, all of the cells in your selection will be cleared. For more information, see Selecting multiple cells on page 87.

Note: Clearing only erases the contents of the cells and does not affect field names, field formats, column headings or icons.

Filling multiple fields with repeating data

Use the Fill command to enter identical data into multiple fields in a record.

Before Fill operation

ion	Height							F
	2	9	16	23	30	37	40	
ard	0.4	1.9	7.5	17	17.9	18.5	18.5	
ard	0	1.4	6.7	12.9				
ard	0	1.2	6.9	13	14.5	14.4	14.4	
ard	0.5	1.4	6.1	10.1	11.7	11.3	11.3	
ard	0.2	1.4	7					

After Fill operation

ion	Height							F
	2	9	16	23	30	37	40	
ard	0.4	1.9	7.5	17	17.9	18.5	18.5	
ard	0	1.4	6.7	12.9	12.9	12.9	12.9	
ard	0	1.2	6.9	13	14.5	14.4	14.4	
ard	0.5	1.4	6.1	10.1	11.7	11.3	11.3	
ard	0.2	1.4	7					

To fill a row of cells with the repeating data:

1. Enter the data you want to repeat into the left-most cell of the row of cells you want to fill.
2. Select all of the cells in the row you want to fill with data, starting with the cell you entered data into in the previous step.
3. On the **Edit** menu, choose **Fill**, then select **Right**.

Now the cells in your selection all contain the same data.

Note: To fill the fields in multiple records, select all of the cells you want to fill, then follow the same procedure. Each cell will be filled with the data from the leftmost cell of each record.

Note: Only cells of compatible data types can be filled. For example, text cannot be entered into a number field. For more information about field data types, see Setting the data type of a field on page 76.

Filling multiple records with repeating data

The Fill command is a fast way to enter the same data into multiple records in a field.

Before Fill operation

ian	Black	Brown
esa	Black	Brown
nika	Blonde	Blue
hary		Blue
en		Blue
nea		Blue
ery		Blue
mantha		Brown
ne		Blue
i		Blue
an	Brown	Brown
ssa	Brown	Brown
tin	Brown	Brown

After Fill operation

ian	Black	Brown
esa	Black	Brown
nika	Blonde	Blue
hary	Blonde	Blue
en	Blonde	Blue
nea	Blonde	Blue
ery	Blonde	Blue
mantha	Blonde	Brown
ne	Blonde	Blue
i	Blonde	Blue
an	Brown	Brown
ssa	Brown	Brown
tin	Brown	Brown

To fill multiple records with the repeating data:

1. Enter the data you want to repeat into the top-most cell of the column of cells you want to fill.
2. Select all of the cells in the column you want to fill with data, starting with the cell you entered data into in the previous step.
3. On the **Edit** menu, choose **Fill**, then select **Down**.

The cells in your selection now all contain the same data as the top-most cell.

Note: To fill the records in multiple fields with data vertically, select all of the cells you want to fill, then follow the same procedure. Each cell will be filled with the data from the top-most cell of each field.

Adding a note to a cell

Use notes to leave yourself a reminder, call out particularly important data, or record the source of data in certain cells.

To add a note to a cell:

1. Select the cell you want to add a note to by clicking on it.
2. On the **Toolbar**, click the **Note** button .

The **Notes** area will appear above your table.

3. Type your note into the **Notes** area.

When you add a note to a cell, field or record, a small triangle  appears on in the upper-right corner.

Defining the data in a field using a formula

Formulas are useful when one of your fields can be calculated from the data in one or more other fields.

This field contains manually entered data...

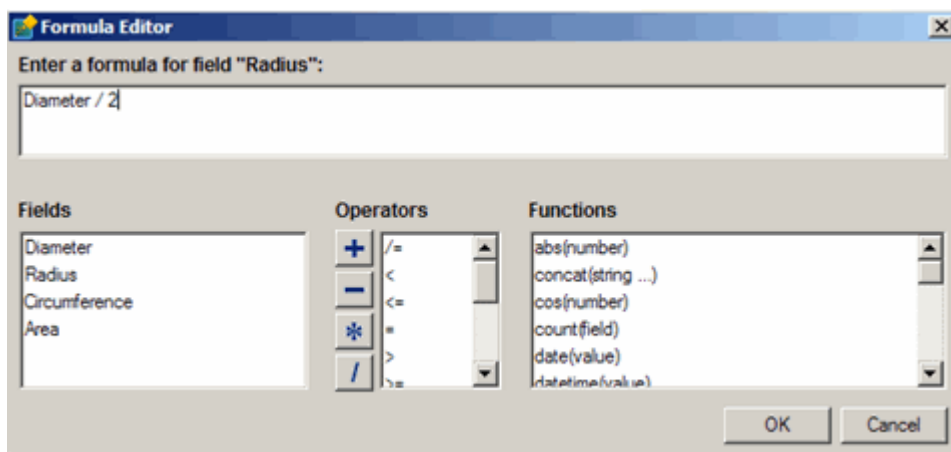
...which can be used to calculate the data in these fields.

	Diameter	Radius	Circumference	Area
◆	2.1	1.05	6.59736	3.463614
◆	3.5	1.75	10.9956	9.62115
◆	4	2	12.5664	12.5664
◆	5.4	2.7	16.96464	22.90226
◆	5.9	2.95	18.53544	27.33977

For example, if your table contains diameter measurements of a group of circles, you could use formulas to automatically calculate the radius ($diameter / 2$), the circumference ($diameter * 3.1416$), the area ($3.1416 * radius^2$) and more.

To use a formula to calculate the values in a field:

1. Select the field you want to change to a formula by clicking on its field heading.
2. On the **Toolbar**, click the **Field Type** menu Undefined ▾ and choose **Formula** from the list.



The **Formula Editor** appears showing a list of the field headings in your table, as well as operators and functions.

3. Enter your formula either by double-clicking on all but the +, -, * and / symbols or by typing your formula into the dialog box.

Formulas follow the standard rules for order of operations. Use parentheses to group operations that you want to happen first. For example, where $3 + 3 * 2$ would equal 9, $(3 + 3) * 2$ would equal 12.

If InspireData cannot produce a result based on the formula you enter, an error message will appear beneath the Formula box, and you can try again.

4. When you are finished, click **OK**.

The cells in your formula field will be filled in automatically with calculated data.

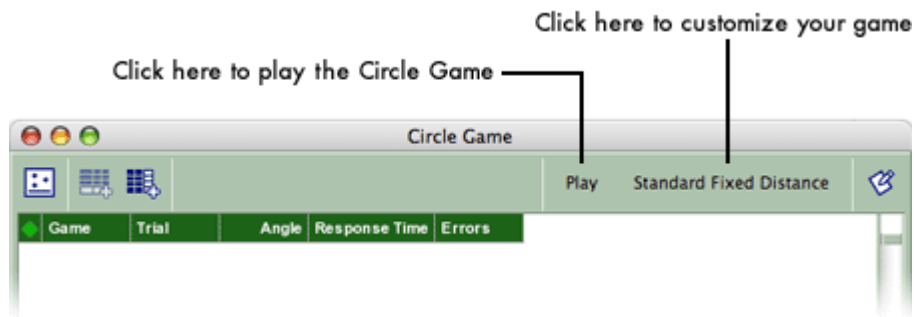
Note: For more detailed descriptions on how to use formulas, see Formula functions on page 198 and Formula operators on page 196.

Collecting data using the Circle Game

InspireData includes a special type of table called the Circle Game. A group of people can play this simple, mouse-operated game. As they're playing, InspireData collects their reaction times in a table for analysis.

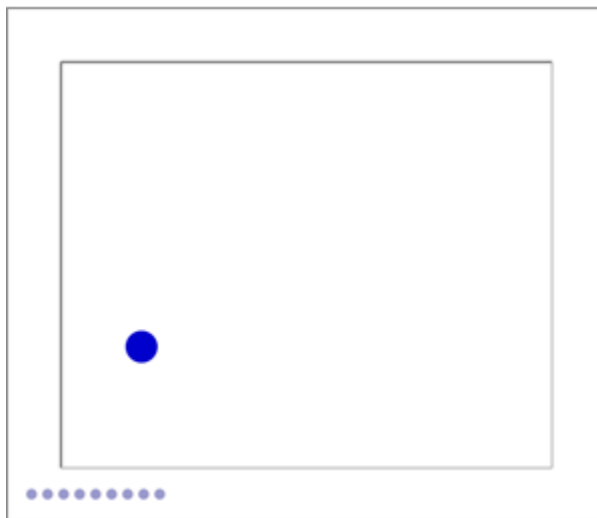
To collect data using the Circle Game:

1. On the **Table** menu, go to **New Special Table**, then choose **Circle Game**.



A new table will be added to your document. The Circle Game controls will appear on the right side of the Toolbar.

2. On the **Toolbar**, click the **Circle Game Options** button (to the right of the **Play** button) and choose the game type you want to use.
3. Click the **Play** button to start the game.



Click the circles as they appear until the game is finished.

4. When the game is over, the data that has been collected will be displayed on your table.

	Game	Trial	Angle	Response Time	Errors	Distance	Game Distance
◆	1	1	100	1.00	0	188	Variable
◆	1	2	235	1.24	0	191	Variable
◆	1	3	260	1.09	0	73	Variable
◆	1	4	17	1.01	1	114	Variable
◆	1	5	144	0.50	0	22	Variable
◆	1	6	108	0.75	0	185	Variable
◆	1	7	99	0.73	0	57	Variable
◆	1	8	32	0.77	0	164	Variable
◆	1	9	285	1.22	2	115	Variable
◆	1	10	60	0.47	0	24	Variable

You can either play the game again or add fields and begin analyzing the data you already have.

Note: You can set the number of trials per game and the distance, delay and size of the circles in your experiment by clicking the **Circle Game Options** button and selecting **Custom Game**.

Adding a Timestamp to a new record

A Timestamp automatically records the time and date a record is created.

Adding a Timestamp to a new record:

1. On the **Table** menu, go to **New Special Table**, then choose **Timestamp**.

A new table containing a field named *Time* will be added to your document.

2. On the **Toolbar**, click the **Add Record** button.

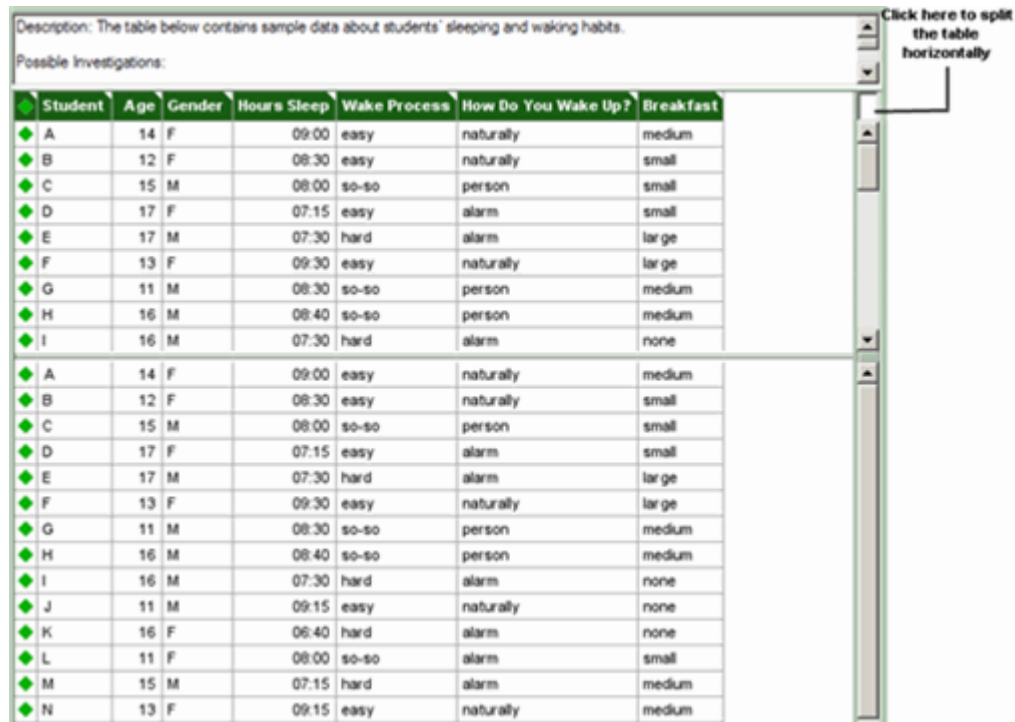
Whenever you add a new record to your table, the time and date you added it will be recorded in the *Time* field.

Splitting a table into panes

In a table containing many fields or records, it may be useful to split the table into panes so that you can simultaneously view fields or records on the opposite sides of the table.

Description: The table below contains sample data about students' sleeping and waking habits.

Possible Investigations:



Student	Age	Gender	Hours Sleep	Wake Process	How Do You Wake Up?	Breakfast
A	14	F	09:00	easy	naturally	medium
B	12	F	08:30	easy	naturally	small
C	15	M	08:00	so-so	person	small
D	17	F	07:15	easy	alarm	small
E	17	M	07:30	hard	alarm	large
F	13	F	09:30	easy	naturally	large
G	11	M	08:30	so-so	person	medium
H	16	M	08:40	so-so	person	medium
I	16	M	07:30	hard	alarm	none
A	14	F	09:00	easy	naturally	medium
B	12	F	08:30	easy	naturally	small
C	15	M	08:00	so-so	person	small
D	17	F	07:15	easy	alarm	small
E	17	M	07:30	hard	alarm	large
F	13	F	09:30	easy	naturally	large
G	11	M	08:30	so-so	person	medium
H	16	M	08:40	so-so	person	medium
I	16	M	07:30	hard	alarm	none
J	11	M	09:15	easy	naturally	none
K	16	F	06:40	hard	alarm	none
L	11	F	08:00	so-so	alarm	small
M	15	M	07:15	hard	alarm	medium
N	13	F	09:15	easy	naturally	medium

To split a table into panes:

1. Move your cursor over the area above the vertical scroll bar. Your cursor will change into a horizontal split cursor .
2. Click and drag the window until the dividing bar is where you want it.
3. Move your cursor over the area to the left of the horizontal scroll bar. Your cursor will change into a vertical split cursor .
4. Click and drag the window until the dividing bar is where you want it.

Splitting a table into panes does not change your data or alter the order of your fields or records.

To remove the panes, drag the split to the top or left side of your table.

Sorting records in a table

Sorting your data helps you find the records you're looking for more quickly. Sorting is especially useful for large tables with many records. You can change your sorting options at any time.

To sort the records in a table:

1. On the **Table** menu, choose **Sort**.
The Sort dialog box appears.
2. Choose the field you want to sort by from the **left menu**.

3. From the **right menu**, choose whether records should be sorted in **ascending** order (alphabetical, numerical or chronological) or **descending** order (reverse alphabetical, numerical or chronological).

After you specify a field to sort by, a second row of menus appears. Use this to choose which field to sort by if some of the records in the primary sort field have equal values. After specifying a secondary sort field, a third row appears and so on. If you add or change records after sorting your table, they will automatically be sorted.

4. When you are finished, click **OK**.

To return your records to their original order, open the **Sort** dialog and select **<none>** for each of the left menus.

Note: If a column of numbers appears to be sorted out of order (103, 13, 16, 24, 4, 52, 9), make sure the field type of your sort field is **Number**. For more information, see Limiting the data type of a field to numbers only on page 77.

Chapter 5: Using Surveys and e-Surveys

InspireData's Survey and e-Survey features allow you to gather data using either an on-screen form or a web form. You create the questions you want answered. With an e-Survey, questions can be answered on any computer that is connected to the Internet. InspireData does not need to be installed to respond to an e-Survey.

Surveys and e-Surveys are especially useful when you have a group of people who aren't familiar with InspireData. People can enter data directly into your database by filling out the form.

- With a Survey, you can set up one or more computers as survey stations and let people take turns answering the questions.
- With an e-Survey, you can publish your form with questions to the InspireData e-Survey web site and have each person visit the web site from any computer at any location to fill out the form.

In either case, when a participant completes the form, a new record with their data is added to your table. When an e-Survey has been completed by all the participants, you can download the entire database by clicking e-Survey on the InspireData Starter screen.

Entering data using a Survey or e-Survey

InspireData can automatically create a Survey, which you can use at any time. This default Survey presents all the fields, using the field names as the questions. When you add a new field to your table, a new question is automatically added to the Survey.

If you want to validate fields for your questions, such as determining a range of numbers, a list of choices, a maximum number of characters to be used for an answer, see Validation of data entered into fields on page 75.

To enter data using a Survey or an e-Survey:

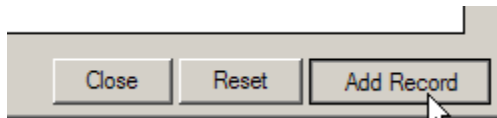
1. Open the table you want to enter data into.
2. On the **Table** menu, choose **Launch Survey**.
3. Enter data into the boxes next to each question.

Optionally, each record can be assigned a custom icon by clicking on the **Icon** near the top of the dialog or the **Import...** button. For more information, see Importing a photograph or other image file as an icon on page 115.

Click here to import a picture or photograph

Type here to answer a question

4. When you're done entering data for this record, click the **Add Record** button.



A new record with the data you've entered is added to the table. The form will be cleared and ready for the next record.

5. When you're done adding records, click the **Done** button.

You can also customize a Survey with your own questions, determine which fields shouldn't appear, specify what constitutes a valid answer and which will require an answer. See Validation of data entered into fields on page 75. For more information about customizing questions, see Changing the wording of a question on a Survey or e-Survey on page 99.

Note: If the **Add Record** button is unavailable, either one or more of the questions that require an answer may not have been filled out yet or an invalid entry has been made in one of the fields. For more information, see Requiring an answer to a question in a Survey or e-Survey on page 103.

Note: Formulas are omitted from Surveys and e-Surveys. InspireData will display complex field types (series, multi-series or subtables) but not within one another; rather such displays are only one level deep.

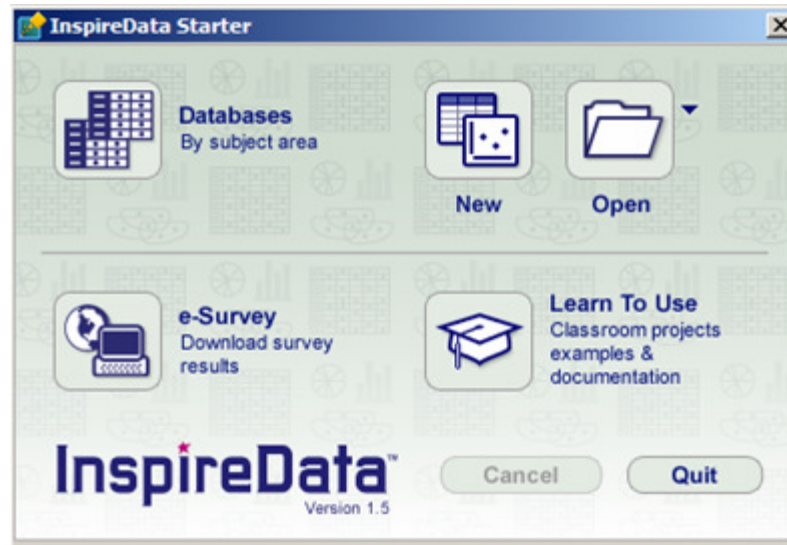
Understanding the differences between a Survey and an e-Survey

You can use InspireData to create an e-Survey, which uses a web form for answering the e-Survey's questions. The steps for creating an e-Survey are the same as those for creating a regular Survey, with these exceptions:

- You can add an invitation to an e-Survey. The invitation text will give your participants an idea of what the e-Survey is about. See Adding invitation text for an e-Survey on page 101.
- You need to publish an e-Survey to the Internet so that your survey participants can take it. See Publishing an e-Survey to the Internet on page 104.



- You will download e-Survey results to an InspireData database using a button on the InspireData Starter screen. See Downloading e-Survey results on page 109.



- You need to end your e-Survey when all participants have completed the online form. See Ending an e-Survey on page 107.

Otherwise, the steps for creating both a Survey and an e-Survey are the same. For details on how to set up both, see Entering data using a Survey or e-Survey on page 97.

Customizing a Survey or e-Survey

To make your Survey or e-Survey easier to understand, you can customize the questions. This is especially useful for tables with many fields or potentially confusing field titles.

Changing the wording of a question on a Survey or e-Survey

In some cases, a field name may not make it obvious what kind of data should be entered. When this happens, changing the wording of the question can help avoid confusion.

For example, if you were collecting information about a group of people, you could customize your Survey to say *Enter your Student Code* instead of just *Name*.

To change the wording of a question on a Survey:

1. On the **Table** menu, choose **Edit Survey...**
2. Click the text box of the field you want to change the wording for.

Type here to change the wording of a question

type	Required?	Question
text	☐	Name
text	☐	Gender
text	☐	Hair Color

3. Type the new question into the text box.
4. When you are finished making changes, click the **OK** button.

When the Survey or e-Survey is launched, the new wording will be used. Be sure to launch it after you have finished editing to make sure your questions appear the way you want them to appear.

Note: Surveys and e-Surveys can display up to 256 characters of text for each question.

Note: Changes made on this form in InspireData will not change the e-Survey that your participants see. In order for the change to be displayed in the e-Survey itself, you need to republish the e-Survey.

Changing the title of a Survey or e-Survey

You can change the title that people will see when you launch a Survey or e-survey. By default, the title will be: "Fill in this survey for *Your Database's name*:"

To change the title of a Survey or e-Survey:

1. On the **Table** menu, choose **Edit Survey...**
2. Click the **Use custom title** check box at the top of the dialog.

3. Type the new title into the **Use custom title:** text box.

Click here to use a custom title...

...then type the new title here

Include?	Field	Type	Required?	Question
☒	Student	Text	☒	Student code or ID number
☒	Age	Number (Validated)	☒	What is your age?
☒	Gender	Text	☒	Male or Female? (M or F)
☒	Hours Sleep	Time	☒	How much sleep do you usually get each night? (hh:mm, hours and minutes)
☒	Wake Process	Text	☐	How hard is it to wake up in the morning? (easy, so-so, hard)
☒	How Do You Wake Up?	Text	☐	What wakes you? (alarm, person, naturally)
☒	Breakfast	Text (Validated)	☒	What size breakfast do you eat? (none, small, medium, large)

4. When you are finished making changes, click **OK**.

When the Survey or e-Survey is launched, the new wording will be used. Be sure to launch it after you have finished editing to make sure your questions appear the way you want them to appear.

Note: Surveys and e-Surveys can display up to 256 characters of text for each question.

Adding invitation text for an e-Survey

You can add text inviting participants to fill out your e-Survey.

To add invitation text:

1. On the **Table** menu, choose **Edit Survey...**

2. Click the **Invitation text** check box at the top of the dialog.

Include?	Field	Type	Required?	Question
☒	Student	Text	☒	Student code or ID number
☒	Age	Number (Validated)	☒	What is your age?
☒	Gender	Text	☒	Male or Female? (M or F)
☒	Hours Sleep	Time	☒	How much sleep do you usually get each night? (h:mm, hours and minutes)
☒	Wake Process	Text	☐	How hard is it to wake up in the morning? (easy, so-so, hard)
☒	How Do You Wake Up?	Text	☐	What wakes you? (alarm, person, naturally)
☒	Breakfast	Text (Validated)	☒	What size breakfast do you eat? (none, small, medium, large)

3. Type the new text into the text box.
4. When you are finished making changes, click **OK**.

Once the e-survey has been published to the web and accessed from the InspireData e-Survey web site, <http://esurvey.inspiredata.com>, the wording will be visible at the top of the page.

Excluding a field from a Survey or e-Survey

Your table may include fields that you don't want included in your Survey or e-Survey.

For example, if you were collecting data on the sleep habits of secondary students, you might decide that what they eat for breakfast will be a question on a later survey about daily eating habits.

To exclude a field from a Survey or e-Survey:

1. On the **Table** menu, choose **Edit Survey...**

2. Locate the question you'd like to exclude, then uncheck the leftmost checkbox under **Include?**.

Include?	Field	Type	Required?	Question
☒	Student	Text	☒	Student code or ID number
☒	Age	Number (Validated)	☒	What is your age?
☒	Gender	Text	☒	Male or Female? (M or F)
☒	Hours Sleep	Time	☒	How much sleep do you usually get each night? (hh:mm, hours and minutes)
☒	Wake Process	Text	☐	How hard is it to wake up in the morning? (easy, so-so, hard)
☒	How Do You Wake Up?	Text	☐	What wakes you? (alarm, person, naturally)
☐	Breakfast	Text (Validated)	☒	What size breakfast do you eat? (none, small, medium, large)

OK Cancel

3. When you are finished making changes, click **OK**.

When the Survey or e-Survey is launched, the questions you excluded will not appear. To re-include an excluded question, follow the procedure above again, then click the **Include?** checkbox so that a check appears in the box. You will need to publish the e-Survey again.

Adding records to a subtable in an e-Survey

When an e-Survey includes a subtable, use the **Add Record** button  to add records. You can delete those records you do not want to include. For more information about subtable fields, see Creating a subtable field on page 133. For more information about validating fields, see Validation of data entered into fields on page 75.

Requiring an answer to a question in a Survey or e-Survey

Your table may include fields that you would like answered by every respondent.

For example, you may decide that all respondents must give their Student code or ID number, or else they cannot complete the survey.

If a question is set as required, the words "This value is required" will appear below the question. Respondents will not be able to submit their record until this field is filled out.

To require an answer to a question:

1. On the **Table** menu, choose **Edit Survey...**
2. Locate the question you'd like to make required, then click the checkbox labeled **Required?**.

Include?	Field	Type	Required?	Question
☒	Student	Text	☒	Student code or ID number

3. When you are finished making changes, click **OK**.

When the Survey or e-Survey is launched, the questions you marked as required will need to be answered before a new record can be added. To make an answer-required question optional, follow the same procedure again, click the **Required?** checkbox so that a check does not appear in the box.

Note: Changes made on this form in InspireData will not change the e-Survey that your participants see. In order for the change to be displayed in the e-Survey itself, you need to republish the e-Survey.

Working with an e-Survey

InspireData's e-Survey provides a way for you to publish a survey online. With an e-Survey, participants answer questions using a web form. Participants must have access to the Internet in order to respond to an e-Survey.

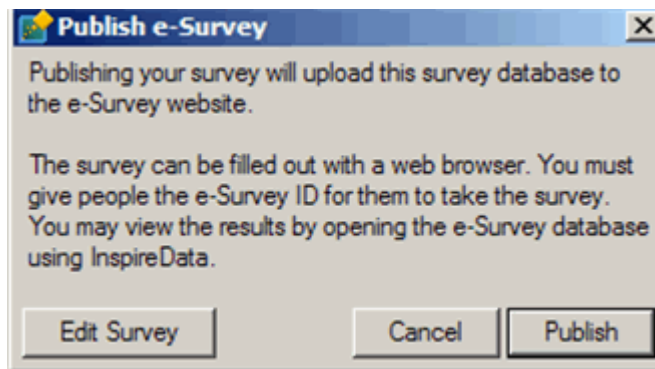
Publishing an e-Survey to the Internet

Once you have set up your Survey the way you want it to be, you can publish it to the Internet. This means that it will appear on the InspireData web site, esurvey.inspiredata.com, where those who have the Survey ID can fill out the form using their web browser.

If you have already entered data or set up plots or slides, these will be contained in the database. Although they will not be visible to those taking the e-Survey on the web, when you (or someone else) downloads the results, this information will be preserved.

To publish an e-Survey:

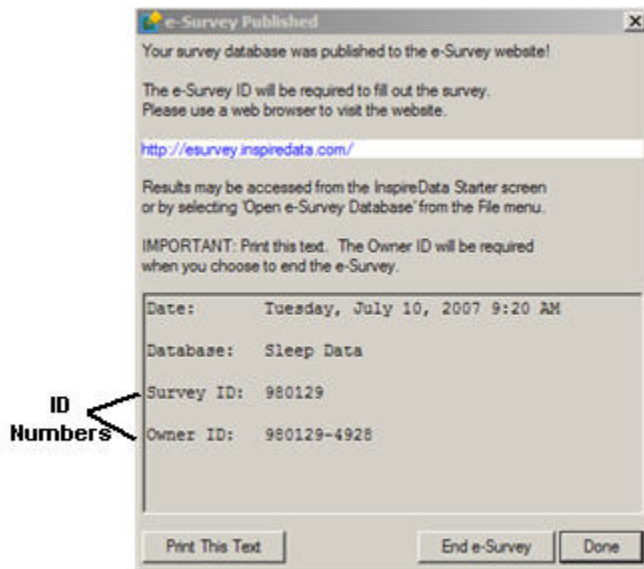
1. On the **Table** menu, choose **Publish e-Survey...**
2. Choose **Publish** from the Publish e-Survey dialog:



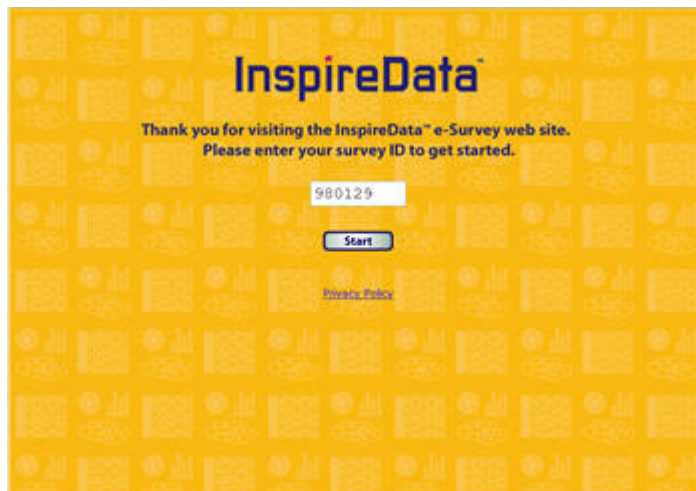
You may choose to edit the survey using the **Edit Survey** button. Once you have completed the edits, you will be brought back to this dialog.

3. Review the results, paying particular attention to the **Survey ID** and the **Owner ID**. You may want to print the results. Those who contribute data will need the Survey ID to do so. You will need the Owner ID to end the e-Survey.

Please note: This is the *only* place the **Owner ID** is shown to you. The rest of the results can be accessed using the **View e-Survey Log...** command from the **File** menu in InspireData.



4. Notice the hyperlink in the dialog box: <http://esurvey.inspiredata.com>. This link will take you to the e-Survey location:



To print your e-Survey, please see Printing a Survey or e-Survey on page 191.

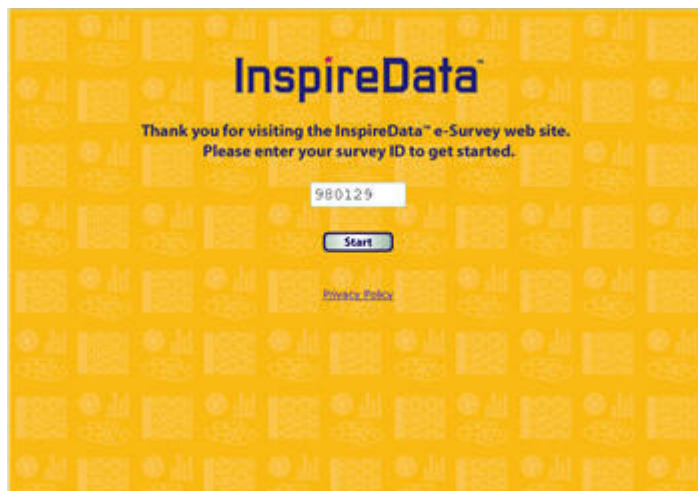
Taking an e-Survey

Once it has been published, you may add data to an e-Survey if you have access to the Internet. e-Surveys appear much like Surveys in InspireData, except they are presented on a web page and accessed using a web browser.

To take an e-Survey:

1. Navigate to <http://esurvey.inspiredata.com> in your web browser.

2. Enter your **Survey ID** and click **Start**.



When you click start, your e-Survey opens, as shown:

3. When you have filled out the survey, click **Submit** to save the data.

If you want to take the e-Survey multiple times, use the **Submit & Repeat** button.

All participants who fill out the e-Survey and click Submit will have their records added to the database you have published to the e-Survey web site (esurvey.inspiredata.com). To learn more about viewing the new database, see [Downloading e-Survey results](#) on page 109.

Depending on how the e-Survey was configured, questions might be presented using a series of fields, choice lists or subtables. If fields have validation rules setting limits on the data that can be entered, these will be enforced on the e-Survey.

When an e-Survey includes a subtable, use the **Add Field** button  to add records. You can delete those records you do not want to include. For more information about subtable fields, see [Creating a subtable field](#) on page 133. For more information about validating fields, see [Validation of data entered into fields](#) on page 75.

Note: For information about adding custom icons to the e-Survey, see Entering data using a Survey or e-Survey on page 97.

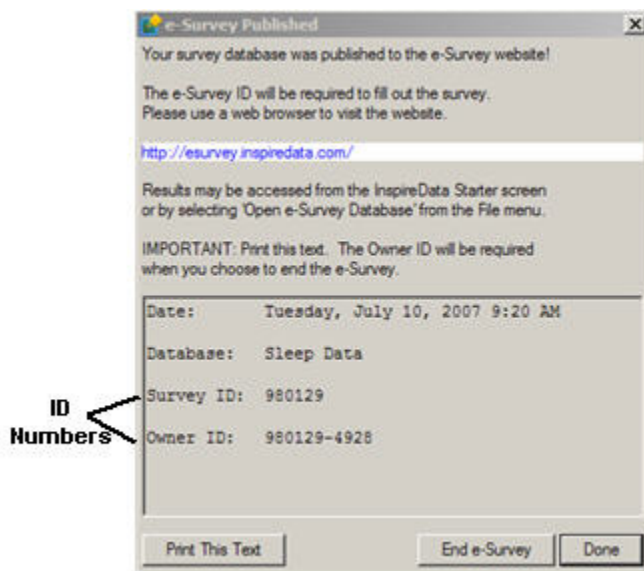
Note: To print an e-Survey, see Printing a Survey or e-Survey on page 191.

Ending an e-Survey

In order to stop accepting contributions to your e-Survey, you must explicitly end it. Even though an e-Survey has ended, the results can still be downloaded from the InspireData e-Survey web site.

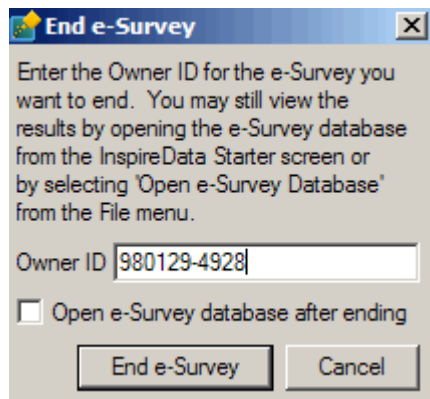
To end an e-Survey:

1. From the **File** menu, choose **End e-Survey...**
2. Enter the **Owner ID** for the e-Survey you wish to end. This was provided at the conclusion of the Publish e-survey process as shown below:

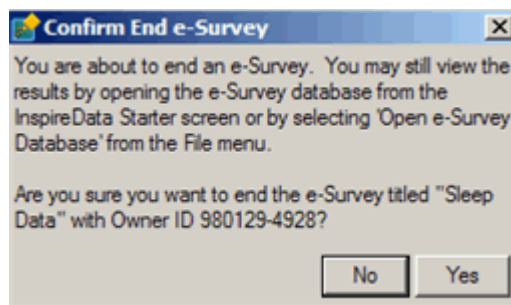


A checkbox is available, which automatically opens the e-Survey after it has ended. This opens a copy of the database with the final set of data from the e-Survey web site. It is the same as choosing the e-Survey button from the InspireData Starter dialog or choosing Open e-Survey Database... on the file menu.

3. Click the **End e-Survey** button.



4. Confirm that you wish to end the e-Survey by clicking on **Yes**.



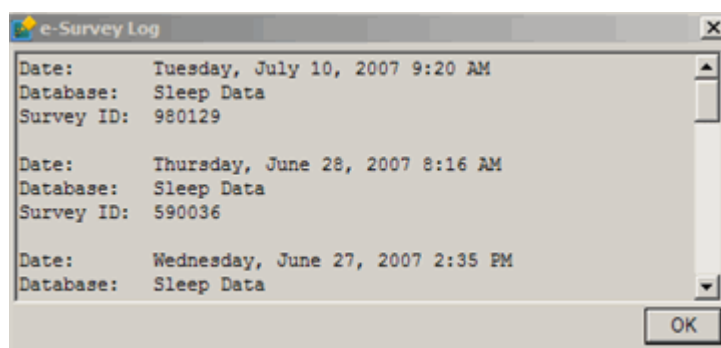
Once you have ended your e-Survey, those who know the Survey ID and who visit <http://esurvey.inspiredata.com> will not be able to make contributions to the e-Survey.

You can end an e-Survey immediately after you create it using the End e-Survey button on the dialog where the Survey and Owner IDs are listed. If no data has been entered into the e-Survey, no entry will appear in the e-Survey Log. (See Viewing the e-Survey Log.)

Viewing the e-Survey Log

Every time an e-Survey is published, it is recorded in the e-Survey Log. This log is associated with the user currently logged on to the computer. The log contains the date the e-Survey was published, the database name and the Survey ID. It shows information about any e-Surveys published from your computer.

1. From the **File** menu, choose **View e-Survey Log...**



The most recent surveys are listed first.

2. Click **OK** when you are finished viewing the e-Survey Log.

Note: The text in this dialog can be selected and copied.

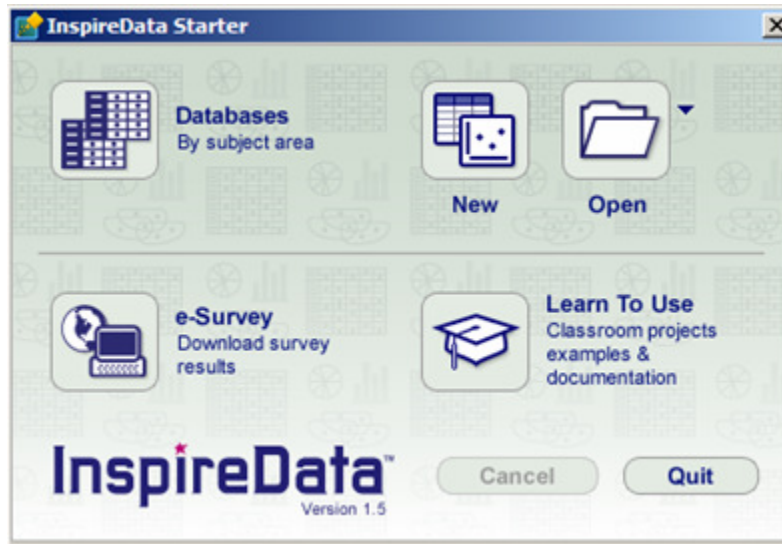
Downloading e-Survey results

Whether the survey has been ended or is still open for input, the results can be downloaded by opening the database with InspireData. Data from the e-Survey is contained in a new database, which can be modified and saved to a disk. Every time you or anyone else downloads the same data, a new file is created.

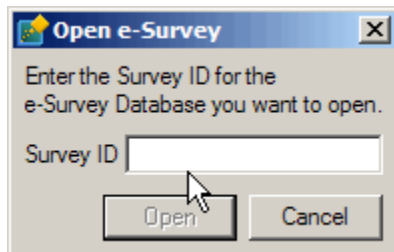
In addition to records that are added by people who contribute to your e-Survey, plots, tables, data and slides present in the database at the time it was published will also be available.

To download an e-Survey:

1. On the **InspireData Starter** screen, click on the e-Survey button



2. Enter the **Survey ID** of the e-Survey you want to open.



3. Click **Open**.

A new database opens showing the data as it was published, plus the data entered by way of the online web form. You, or anyone who knows the Survey ID and has InspireData on their computer, can now open and analyze the data using all of InspireData's features.

e-Survey databases can still be downloaded even after the e-Survey has ended. They will remain available for download for a period of time determined by Inspiration Software.

Conducting a Survey or e-Survey

Once you have your Survey set up the way you like, you can conduct it on one or more computers. You may use either the on-screen survey inside InspireData, or you may use an e-Survey that you have published to the InspireData e-Survey web site.

Administering a Survey on a single computer using the onscreen form

1. Open the document you want to add records to.
2. On the **Table** menu, choose **Launch Survey...**
3. Ask survey participants to come to the computer one at a time.
4. Instruct each participant to fill out the form and click the **Add Record** button when they are finished.
5. After all the participants have entered their data, click the **Done** button.
6. On the **File** menu, choose **Save** to save your data.

Note: If one of your survey participants accidentally clicks the **Done** button before everyone has entered their data, relaunch the survey by choosing **Launch Survey...** on the **Table** menu. For more information, see Entering data using a Survey or e-Survey on page 97.

Administering a Survey on multiple computers

If you are conducting a large survey, you will get the best results by using an e-Survey. An e-Survey automatically collects all data entered using many computers and puts it into a single database. You need access to the Internet to conduct an e-Survey.

If you do not have access to the Internet, or if you decide to use an on-screen survey in InspireData, it might be best to administer your large survey on more than one computer. For example, your survey may need data gathered from multiple classrooms. Or, your survey may need data gathered from classrooms outside the school.

You will need to set up each computer so that it will have its own blank copy of the database.

To administer a Survey on multiple computers:

1. On each computer, open the document you want to add records to.
2. On the **Table** menu, choose **Launch Survey...** at each computer.
3. Ask your subjects to come to each computer one at a time.
4. Instruct each subject to fill out the form and click the **Add Record** button when they are finished.

For more information, see Entering data using a Survey or e-Survey on page 97.

5. After all participants have entered their data, click the **Done** button.

Note: If a participant accidentally clicks the **Done** button before everyone has entered their data, relaunch the survey by choosing **Launch Survey...** on the **Table** menu.

6. On the **File** menu, choose **Save** to save your data at each computer.

When administering a survey on multiple computers, it is useful to save the documents from each computer to the same folder on the network with a unique name such as *My survey - classroom 1.extension*.

7. Open one of the saved documents.
8. Use InspireData's **Append Data** feature to combine the tables from each document. For more information, see Appending data from another InspireData document to a table on page 186.

Administering a Survey using the InspireData e-Survey

If you are conducting a large survey, it may be helpful to conduct an e-Survey. That way you can use more than one computer. Each computer must have access to the Internet.

For large groups, using an e-Survey can reduce the amount of time it takes to conduct the survey.

To conduct a survey using an e-Survey:

1. Open the document you want to add records to.
2. Configure the Survey the way you would like it to be. (See Entering data using a Survey or e-Survey on page 97.)
3. From the **Table** menu, choose **Publish e-Survey...** and click the **Publish** button.
4. Note the information about the e-Survey, especially the **Survey ID** and **Owner ID** numbers.

You can only end an e-Survey if you know the Owner ID, and this is the only place the Owner ID is shown to you.

5. Click **Done**.

You can now either save and close the database, or you can simply close and not save the database since a copy exists on the InspireData e-Survey web site.

6. Open a web browser and go to **http://esurvey.inspiredata.com**.
7. Instruct each subject to enter the **Survey ID**, click **Start** and fill out the form.
Participants will click the **Submit** button when they are finished.
8. After all subjects have entered their data, open the **InspireData** program.

9. On the **InspireData Starter** screen, click the e-Survey button  or choose **Open e-Survey Database** from the **File** menu.

10. Enter the **Survey ID** to download the survey results.

11. From the **File** menu, choose **Save** to save your data.

Participants can continue to enter data on the e-Survey until you end the survey. To end it, choose **End e-Survey** from the **File** menu. For more specific information, see the sections in this User's Manual about e-Surveys.

Chapter 6: Using icons to visually represent records

Icons are small pictures that can be used to visually identify your data in Table View and represent your data in Plot View. Icons are especially useful when your table contains many records, as each record in your table can have its own unique icon.

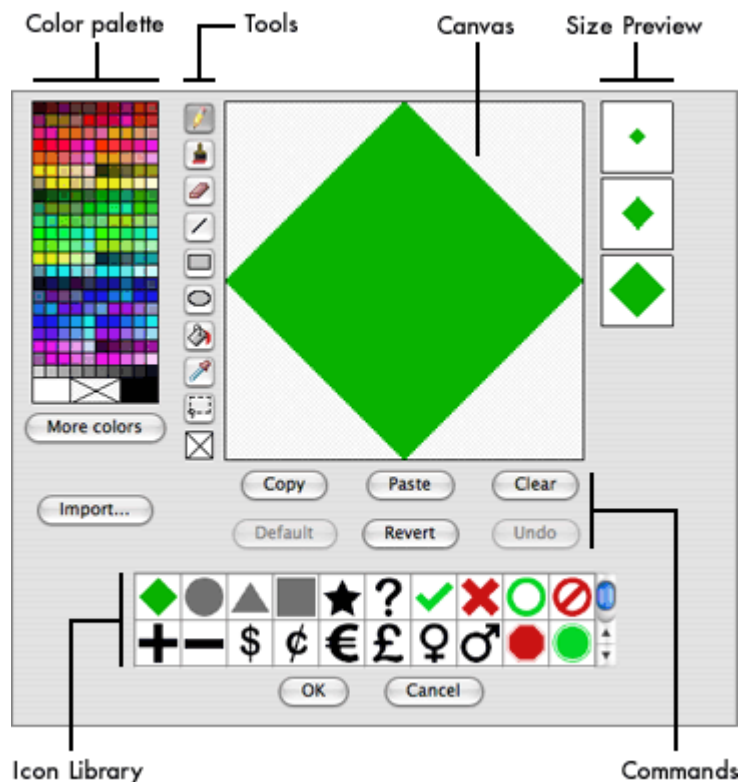
If your table contained a record for each country of the world, for example, you could draw or import a picture of the flag for each country. When you switch to Plot View, the countries will be much easier to differentiate and identify.

Drawing icons using the Icon Editor

The Icon Editor enables you to draw icons to uniquely identify the records in your table. You can draw a variety of shapes and lines, then fill the shapes with different colors. After you create an icon, you can add it to the Icon Library to use with other records.

To draw an icon using the Icon Editor:

1. Click on the icon you want to edit.
2. On the **Edit** menu, choose **Edit Icon** to open the Icon Editor.



- You can choose colors for your icon from the **Color palette** on the left side of the dialog box.
 - The **Canvas** is in the center of the dialog box. This is the area you will draw into.
 - The tools for drawing your icon are in the **Tool palette** located between the **Color palette** and **Canvas**.
 - The **Size Preview** boxes on the far right of the dialog box show how your icon will appear at different sizes in the Plot View.
 - The **Icon Library** is at the bottom of the dialog box. This is where you can store and retrieve your saved icons.
3. Click a tool from the **Tool palette** to select it.
 4. Click a color on the **Color palette** to use with your selected tool.
 5. Click and drag on the **Canvas** to use your selected tool.
 6. When you are finished, click **OK** to save your icon.

If you want to start off with a blank Canvas, click the **Clear** button after opening the Icon Editor.

To find out what each of the tools in the Tool palette does, see About the Icon Editor tools below.

Tip: You can also double-click the icon you want to edit to open the Icon Editor.

About the Icon Editor tools

The Icon Editor has a variety of tools for creating custom icons for your records.

Use this tool to do this



Pencil

Draw a thin freeform line.



Paint brush

Draw a thick freeform line.



Eraser

Erase part or all of the icon.



Line

Draw a straight line. Hold the shift key to restrict the line to 15° increments.



Rectangle

Draw a solid rectangle. Hold the shift key to draw a square.



Oval

Draw a solid oval. Hold the shift key to draw a circle.

	Fill the background of a specific continuous area of the icon with the selected color.
Paint bucket	
	Change the selected color to any color you click on in the Canvas.
Color Dropper	
	Select a rectangular, diamond or oval section of the drawing. Click the Select tool multiple times to switch shape modes.
Select	To move the selected part of the icon, click and drag the selection.

The Icon Editor also contains several buttons to perform common functions.

Click this . . .	. . . to do this
Copy button	Copy the icon or current selection to the clipboard.
Paste button	Paste the contents of the clipboard.
Clear button	Erase everything on the Canvas.
Default button	Reset the Canvas to your table's current default icon.
Revert button	Revert the Canvas to the state it was in when you opened the Icon Editor.
Undo button	Undo the last action.
Import button	Import an image file.

Selecting a color in the Icon Editor

The color you select from the Color palette is the color that will be used when you draw on the Canvas with a tool from the toolbox. For example, if you select pink and then draw on the Canvas with the paintbrush, the line you draw will be pink.

The Selected Color box indicates the currently selected color and is located at the bottom of the Tool palette.

To select a color in the Icon Editor:

- Click one of the colors in the **Color palette**.

-or-

Click the **More colors** button below the Color palette and choose a color.

On the bottom of the Color palette, there is a white box with an X through it that represents transparency . You can select the transparency color with the tools in the palette to paint, fill

and draw shapes with transparency. On the Canvas, transparency is represented by a faint checkerboard pattern.

Retrieving an icon from the Icon Library

The Icon Library is located at the bottom of the Icon Editor. InspireData comes with 120 icons that you can use or edit to suit your needs. The library will also temporarily store the last 10 custom icons you've created until you quit the application.

To retrieve an icon from the Icon Library:

1. In **Table View**, double-click an icon to open the **Icon Editor**.
2. Scroll to the icon you want to retrieve from the **Icon Library** and click on it.

The icon from the library appears and replaces whatever is on the Canvas. To restore the previous contents of the Canvas, click the **Undo** button.

Note: You cannot store your own icons in the Icon Library. However, you can copy an icon and paste it into another table, document or application. For more information, see Copying and pasting an icon in Table View on page 116.

Importing a photograph or other image file as an icon

You can import a photograph or a drawing from another application to use for your records.

InspireData can import .GIF, .JPG, .JPEG, .TGA, .TIFF, .TIF and .PNG files for use as icons. Imported graphics will be automatically resized to fit into the space available on the canvas of the Icon Editor.

To import an image file as an icon:

1. In **Table View**, double-click an icon to open the **Icon Editor**.
2. Click the **Import** button.
3. Locate and click on the file you want to import.
4. Click the **Open** button.
5. In the **Icon Editor**, click **OK**.

When you import an image file, the imported graphic replaces whatever is on the Canvas. To restore the previous contents of the Canvas, click the **Undo** button.

Selecting areas of the Canvas in the Icon Editor

Selecting areas of the Canvas in the Icon Editor is useful for moving, erasing, copying and pasting those areas.

To select an area of the Canvas:

1. In **Table View**, double-click an icon to open the **Icon Editor**.
2. Click on the **Select** tool .

To switch between rectangle, diamond and oval selection modes, click the **Select** tool until the shape you want appears.

3. Click and drag an area of the **Canvas** to select it.

To select a square or circular area of the **Canvas**, hold the **shift key**.

Once you select an area of the Canvas, you can:

- Press the **Backspace** key (Windows) or **Delete** key (Macintosh) to delete everything inside of your selection.
- Press **Ctrl+Backspace** (Windows) or **Command+Delete** (Macintosh) to delete everything outside of your selection.
- Click and drag inside your selection to move it.
- Click the **Copy** button to copy the selection, then click **Paste** to paste it elsewhere on the **Canvas**.

Copying and pasting an icon in Table View

You can copy an icon in Table View, then paste it to one or more records without opening the Icon Editor. This is a quick way to change the icon for a group of records. You can also paste an image copied from another application.

To copy and paste an icon in Table View:

1. Select the icon you want to copy.
2. On the **Edit** menu, choose **Copy Icon**.
3. Select the record or records you want to change the icons for.
4. On the **Edit** menu, choose **Paste Icon**.

Note: To paste an image from another application—like a web browser—copy the image in the other application, then paste as described above. For more information about copying an image in another application, please see the documentation for that application.

Changing the default icon of a table

The default icon in InspireData is a green diamond . You can change this icon to another one. Changing the default icon for a table will change the icons for all the records in your table.

For example, your table for an experiment on a group of plants may already contain a few records. If you decide that the icon for the records should be a leaf, you can replace the default icon with a leaf icon. Changing this default icon will change the icons of the existing records, and it will automatically assign the new default icon to all new records.

To change the default icon of a table:

1. Double-click the icon in the top-left corner of your table (located next to the field headings).
2. Make the changes you want to make to the icon.
3. When you are finished, click **OK**.

If you have already assigned customized icons to some of the records in your table, those icons will not be changed when you switch to the new default icon.

Adding an icon from an e-Survey

When you collect data using an e-Survey, you can add icons to a record in much the same way you add icons when conducting an on-screen Survey in InspireData. The difference is that the Icon Editor is not present on the Internet, and the images selected as icons must be in one of the following formats: .JPG, .GIF or .PNG.

To add an icon from an e-Survey:

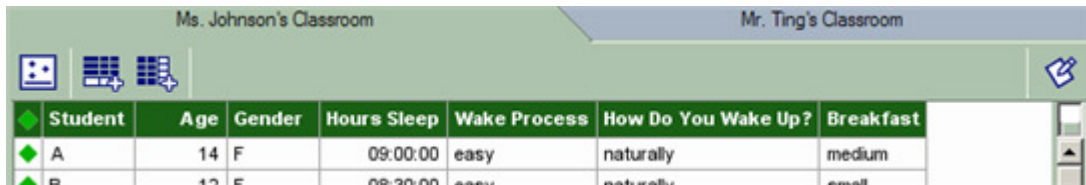
1. Open your web browser and go to **esurvey.inspiredata.com**.
2. Enter a valid **Survey ID**, then click **Start**.
3. Click the **Browse** button next to **Attach a custom icon**, as shown:

The screenshot shows the InspireData e-Survey interface. At the top, the InspireData logo is displayed above the text 'e-Survey'. Below this, a heading reads 'Fill in this survey for Sleep Data:'. A note states 'Click the Submit button at the end when you finish.' The main section is titled 'Choose a graphic file to use as a custom icon:' and includes a sub-note: 'Your graphic file will be reduced in size and appear in InspireData.' There is a text input field followed by a 'Browse...' button, which is highlighted by a mouse cursor. Below the file selection area, there are three required text input fields: 'Student code or ID number', 'What is your age?', and 'Male or Female? (M or F)'. Each of these fields has a red 'required' label to its left. The entire form is enclosed in a yellow border decorated with various icons.

4. Select a **.JPG**, **.GIF** or **.PNG** file, then click **Open**.

Chapter 7: Organizing data using multiple tables

You can create multiple tables in a single document. This is useful when you have multiple sets of similar records.



Student	Age	Gender	Hours Sleep	Wake Process	How Do You Wake Up?	Breakfast
A	14	F	09:00:00	easy	naturally	medium
B	17	F	08:30:00	easy	naturally	small

For example, you could have several classrooms performing the same experiment on multiple sets of participants. You could also have multiple types of experiments performed on one set of participants. Since you will probably want to have easy access to all of your data sets while entering and examining data for that project, multiple tables make more sense than multiple documents.

Multiple tables are especially useful when used with linked fields. Linked fields allow you to access any of the data in one table from another. For more information, see [Linking data in multiple tables](#) on page 119.

Adding a new table to your document

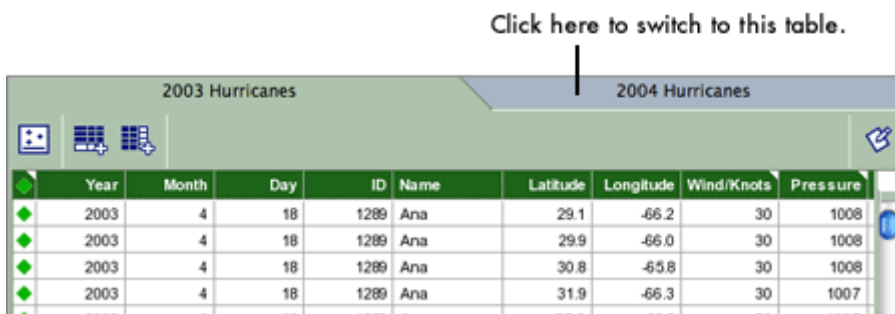
You can add up to 10 different tables to a single document.

To add a new table to your document:

- On the **Table** menu, choose **New Table**.

Switching between tables in a document with multiple tables

When a document contains more than one table, a tab for each table is displayed above the Toolbar.



Year	Month	Day	ID	Name	Latitude	Longitude	Wind/Knots	Pressure
2003	4	18	1289	Ana	29.1	-66.2	30	1008
2003	4	18	1289	Ana	29.9	-66.0	30	1008
2003	4	18	1289	Ana	30.8	-65.8	30	1008
2003	4	18	1289	Ana	31.9	-66.3	30	1007

To switch between tables in a document with multiple tables:

- Click the tab of the table you want to view.

Renaming a table

When you create a new table, it is called simply *Table 2* or *Table 3*, etc. The name appears on the tab. When you have several tables in one document named *Table 1*, *Table 2*, *Table 3*, and so on, it becomes hard to remember what's in them.

You can rename your tables to easily identify them.

To rename a table:

1. On the **Table** menu, choose **Table Properties**.
2. Type the new name into the **Name** text box, then click **OK**.

Duplicating an existing table

You may have two sets of data that are very similar except for minor details. You can enter the data into the fields and records of a table, duplicate the table, then modify the data as needed in the duplicated copy.

For example, if you performed the same experiment on two separate groups of plants and wanted to record the results for each group in a separate table, you could set up your fields once, then duplicate that table. This way, you would not have to set up your fields twice.

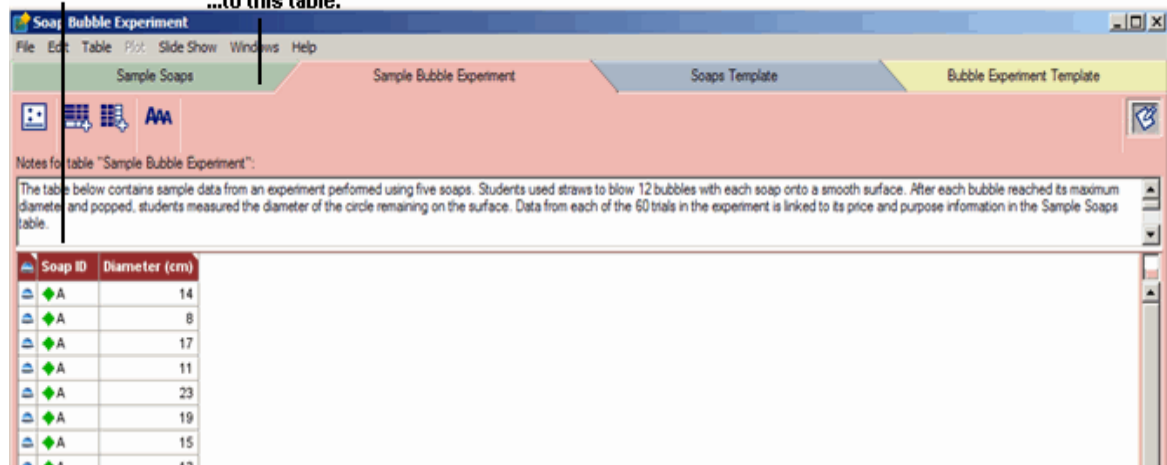
To duplicate an existing table:

- On the **Table** menu, choose **Duplicate Table**.

Linking data in multiple tables

With a link field, you can plot or calculate formulas in one table using data contained in another table. This is especially useful when you have multiple tables with related information. When data from another table is linked, it can be accessed in Plot View and with formulas as well.

**This field is linked...
...to this table.**



You can plot the information from one table against the information of the other. For example, you could plot each bubble's diameter from this table against information about the soap contained in a different table. For more information, see [Creating a link field on page 121](#).

Identifying and changing the Record ID of a table

Every table designates one field as the Record ID field. Record IDs are used when **linking a record in one table to another** record in a different table in the same document. The Record ID is usually the data in the left-most cell of the record in the table you are linking to.

To identify the record ID field of a table:

1. On the **Table** menu, choose **Table Properties**.

The drop-down menus near the bottom of the dialog identify which field is being used as the Record ID field.

If you are linking your table to another, you may click the **Display Record ID field** checkbox.

2. When you are finished, click **OK**.

You can also change the field InspireData uses as the Record ID if the automatically chosen field contains data that is too hard to remember or type.

To change the record ID field of a table:

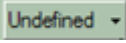
1. On the **Table** menu, choose **Table Properties**.
2. Select a field to use as the Record ID field using the drop-down menus near the bottom of the dialog.
3. If you want to use more than one field to generate the Record ID field, choose another field to use.
4. When you are finished, click the **OK** button.

Note: If you change the Record ID field of a table being linked to, InspireData will automatically change the values in the linking table to match the new Record ID field. Every table designates one field as the Record ID field.

Creating a link field

You can change to the link data type just like any other data type. Once you do, you will then have to link the records within the link field to a record in the linked table.

To create a link field:

1. In a document with two or more tables, add a field to the table you want to link from. This new field will be your link field.
2. Click the **Field type** menu  and choose **Link**.
3. Select the table you want to link to and click **OK**.
4. For each record in the new link field, type the Record ID of the record in the linked table you want to link to.

To find the Record ID, go to the table you want to link to and open the Table menu. Choose Table Properties, which will list the Record ID.

-or-

Click on the record you need to fill with a Record ID, then select the Record ID you want from the drop-down menu in the text box.

If the record ID you enter is not found in the linked table, InspireData will not accept the input.

The Record ID is usually the data in the leftmost cell of the record in the table you are linking to. For more information, see Identifying and changing the Record ID of a table on page 120.

Chapter 8: Organizing data using structured fields

You can use structured fields to store multiple data values within a single field. Listed below are the types of structured fields in InspireData:

- A **list field** allows you to enter multiple values into a single cell by separating the values with commas. List fields are useful for recording answers to questions that may have more than one answer, such as “What languages do you speak?” For more information, see Using list fields below.
- A **series field** is divided into multiple columns. Series fields are useful for recording a measurement that changes over an interval, such as time or distance. For more information, see Using series fields on page 123.
- A **multi-series field** is divided into multiple columns like a series field. However, multi-series fields also contain multiple rows for each record. Multi-series fields are useful for recording a set of measurements that change over an interval, such as time or distance. For more information, see Using multi-series fields on page 125.
- A **subtable field** is divided into subfields and subrecords. Subtable fields are useful when you want each record to have a unique set of subrecords. For more information, see Using subtables on page 133 .

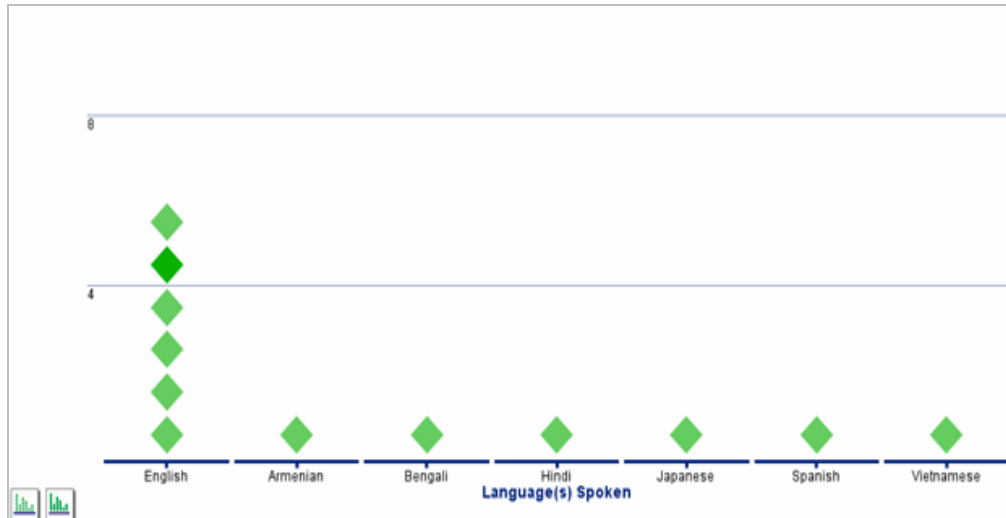
For help choosing which type of structured field to use, see Deciding which kind of structured field to use on page 200.

Using list fields

Using a list field, you can enter multiple values into a single cell by separating the values with commas.

◆	Language(s) Spoken
◆	English, Spanish
◆	English
◆	English, Hindi, Bengali
◆	English, Japanese
◆	English, Armenian
◆	English, Vietnamese

Because a list field allows multiple values, each language can be treated separately. This comes in handy when plotting.



Notice that the icons for the bilingual records are listed in each category. Because each value in the list (language) is treated individually, a record can be shown in two places at one time. When this occurs, the record's icon becomes translucent, indicating that the record is displayed in more than one place.

Creating a list field

1. Select the field you want to create as a list field.
2. Click the **Field type** button, then choose **List**.

When you enter your data, separate each value with a comma.

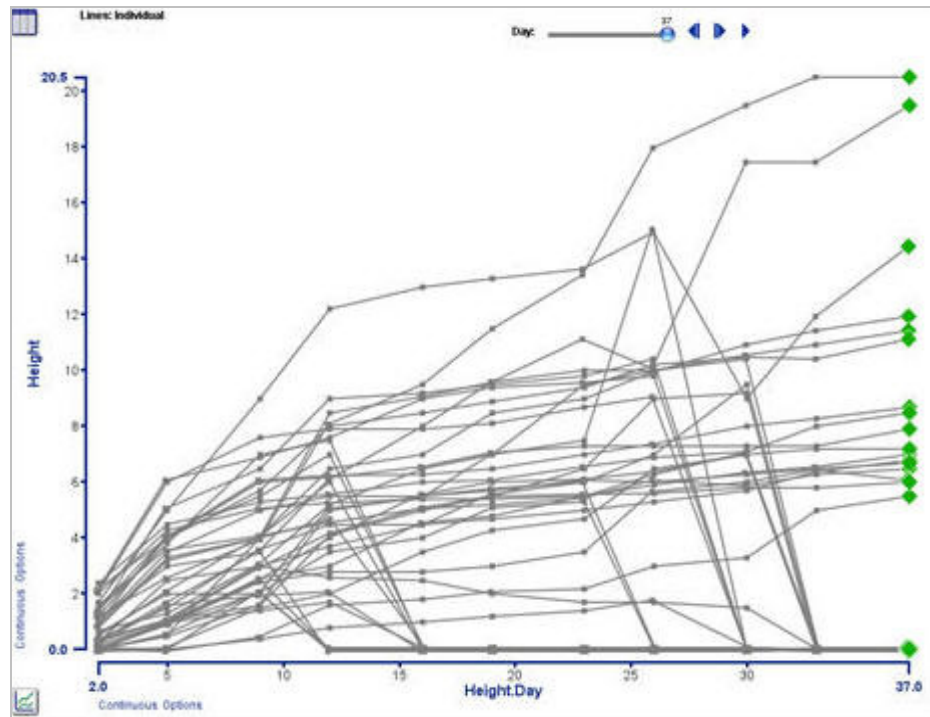
Note: If your data contains either a phrase with a comma in it or two values separated by a comma but which you want to keep together as one value, then use quotes around the phrase or value. For example: "blue,green."

Using series fields

A series field is a single field that is divided into multiple columns. You can use a Series field to record a measurement that changes over an interval, such as time or distance. The table below, for example, shows changes in the height of a group of plants over a period of several weeks.

Height										
2	5	9	12	16	19	23	26	30	33	37
1.1	2.5	4	8	9.5	11.5	13.5	18	19.5	20.5	20.5
0.5	2	4	6.5	7	8.5	9	10	11	11.5	12
0.3	1.6	3.5	6	8	9.6	10	10	10.5	11	11.5
0	0.5	4	8.5	9	9.5	11.2	10	17.5	17.5	19.5
0	0.5	2	5	5.5	7	7.5	15	9	12	14.5
2.1	4	5.7	8	8.5	8.9	9.4	10.3	10.5	10.5	11.2

Plot View shows how the data changes over time. You can create line graphs as well as other types of series-based plots from this data. For more information, see Plotting series and multi-series fields on page 160.



Creating a series field

1. Click the **Add Field** button on the **Toolbar** to create a new field.

-or-

Select the field you want to convert into a series field.

2. Click the **Field type** button, and choose **Series...**

The Series field dialog appears.

3. To use a repeating pattern of numbers for your subfield (or column) headings (1, 2, 3; 25, 50, 75; etc.), click the **pattern** radio button, type in the number you want to start from in the **From** box, the number you want to end at in the **to** box, and the interval you want between each heading in the **in steps of** box.

Specify column headings using: ☒ a pattern ☐ a list of headings

From to in steps of

You have specified 9 headings:
0, 25, 50, ... 175, 200

-or-

To use a list of headings, either text headings, such as red, green, blue, etc., or numerical headings, such as day numbers 2, 5, 9, etc., click the **list of headings** radio button, then enter your headings into the **column headings** text box, separating each with a comma.

Specify column headings using: ☐ a pattern ☒ a list of headings

Enter column headings in order, separated by commas:

2, 5, 9, 12, 16, 19, 23, 26, 30, 33, 37, 40

4. Enter the units of measure that your headings represent into the **headings stand for** box.

The headings stand for <- This label appears when you plot data

5. Choose a data type from the **data type** menu.

The Data

Cells in the field will hold data of type Number

Note: to change the format of the data in the columns, select the field Height, press the Series button in the toolbar, and choose Field Format from the Series submenu.

- 6.** When you are finished setting your options, click **OK**.

Note: You can change the headings of a series field at any time after you create one. Select the field you want to change, click the **Field type** button, choose **Series**, then select **Column Headings**.

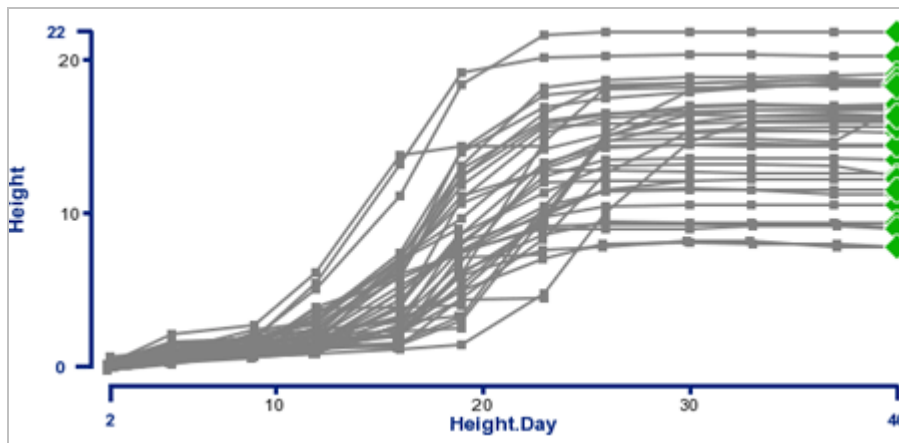
Using multi-series fields

A multi-series field contains both multiple columns and multiple rows for each record, unlike a series field, which contains only multiple columns. You can use a multi-series field to record a set of measurements that changes over an interval, such as time or distance.

For example, if you wanted to record the height, width and leaf count of a group of plants over the course of several weeks, you could create a multi-series field with a separate column for each day that the plants were to be measured. Each column would contain a row each for the height, width and leaf count of each plant.

[illegible]

Once you add your data and switch to Plot View, you will be able to see a visual representation of the data changing over time. You can create line graphs as well as other types of series-based plots. For more information, see Plotting series and multi-series fields on page 160.



Creating a multi-series field

1. Click the **Add Field** button  in the **Toolbar** to create a new field.

-or-

Click on the **field heading** of the field you want to convert to a multi-series field.

			Field heading											Number of Leaves on Day 2
Class	Owner	Condition	Height											
			2	5	9	12	16	19	23	26	30	33	37	
Warberg	CE	Control	1.1	2.5	4	8	9.5	11.5	13.5	18	19.5	20.5	20.5	
Warberg	CE	Control	0.5	2	4	6.5	7	8.5	9	10	11	11.5	12	
Warberg	CF	Control	0.3	1.6	3.5	6	8	9.6	10	10	10.5	11	11.5	

2. Click the **Field type** button, then choose **Multi-series...**

The multi-series field dialog appears.

Multi-Series Field

The Column Headings

Specify column headings using: ☐ a pattern ☒ a list of headings

Enter column headings in order, separated by commas:

2, 5, 9, 12, 16, 19, 23, 26, 30, 33, 37

Sample heading display: 2

The headings stand for: Day *(This label appears when you plot data.)*

The Data

Under these headings, each record will have different series

Note: data in the columns is organized into subfields. You can select each subfield to change the subfield name or the type and format of the data it holds. To add a subfield, select inside Height and choose Add Subfield from the Table menu.

Summary

For each record in the table, the field Height will have 2 subfields with data for each Day, in 11 columns labeled [2] to [37].

- To use a repeating pattern of numbers for your column headings, click the **pattern** radio button. Type in the number you want to start from in the **From** box, the number you want to end at in the **to** box, and the interval you want between each heading in the **in steps of** box.

Multi-Series Field

The Column Headings

Specify column headings using: ☒ a pattern ☐ a list of headings

From to in steps of

A start value must be specified

You have specified 10 headings:

0, 1, 2, ..., 8, 9

OR: To use a list of headings—either text headings, such as red, green, blue, etc., or numerical headings, such as day numbers 2, 5, 9, etc.—click the **list of headings** radio button, then enter your headings into the **column headings** text box, separating each with a comma.

Multi-Series Field

The Column Headings

Specify column headings using: ☐ a pattern ☒ a list of headings

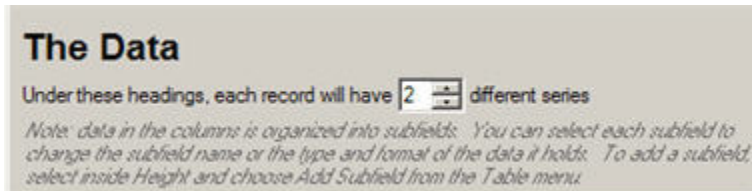
Enter column headings in order, separated by commas:

2, 5, 9, 12, 16, 19, 23, 26, 30, 33, 37

4. Enter the units of measure that your headings represent into the **headings stand for** box.



5. Enter the number of subfields (rows) each column will have into the text box under **The Data**.



6. When you are finished setting your options, click **OK**.

Note: You can change the headings of a series field at any time. Click the **Field type** button, then choose **Multi-series**.

Converting a series field to a multi-series field

If you have a series field and you want to add subfields, you can change to a multi-series field. The data of the original series field will be preserved when the field is converted.

To convert a series field into a multi-series field:

1. Click on the **field heading** of the series field you want to convert.
2. Click the **Field Type** button, which will say *Series...*, and choose **Multi-series**.

When you convert a series field to a multi-series field, your original data will be in a subfield named *Field 1*. A blank subfield will also be added, named *Field 2*. To rename these, select the subfield you want to rename and begin typing.

Working with series and multi-series columns

You can add, duplicate, rename and make other changes to your series and multi-series columns.

Adding a new column to a series or multi-series field

If you decide to extend your observations beyond what you initially planned, you can add series columns so that you have more room to store your data.

To add a new series column:

1. Click on the **field heading** of the series or multi-series field you want to add a column to.
2. On the **Table** menu, choose **Add Series Column**.

New series columns are added to the end of the series of a multi-series field.

Note: If the series or multi-series column headers are defined using a pattern, new fields will continue that pattern. If they use a list of values, new columns will be assigned a generic name.

Duplicating a column in a series or multi-series field

You can add a column to a series or multi-series field with data identical or similar to an existing series column by creating a duplicate of that column.

To duplicate a series column:

1. Click on the **column heading** of the series or multi-series column you want to duplicate.



2. On the **Edit** menu, choose **Copy**.
3. On the **Edit** menu, choose **Paste Special**, then select **Add New Series Columns**.

A dialog box appears asking you to give a heading to the new column. Type the heading, then click the Accept button ✓.

Duplicated series columns are added to the end of the series of a multi-series field.

Note: If you have formatted your fields, and if the series or multi-series column headers are defined using a pattern, duplicated fields will continue that pattern. If they use a list of values, duplicated columns will be assigned a name based on the title of the field and the title of the series column you copied. For more information on formatting fields, see *Formatting data in a field* on page 80.

Renaming a column in a series or multi-series field

You can change the headings of the columns in a series or multi-series field. Renaming is especially useful after you add a new series column.

To rename a series column:

1. Click on the **column heading** of the series column you want to rename.
2. Type your new column heading.

Note: If you change the column heading in a series or multi-series field that uses a pattern, InspireData will convert the pattern into a list of values.

Changing the pattern of column headings in a series or multi-series field

You can redefine the pattern you are using for the headings of the columns in a series or multi-series field.

To change the pattern of series column headings:

1. Click on the **field heading** that contains the columns using the pattern you want to redefine.

Field heading

Class	ID	Owner	Condition	Height											
				2	5	9	12	16	19	23	26	30	33	37	40
GB	jes1	je	Standard	0.4	1.7	1.9	3.2	7.5	14	17	17.5	17.9	18.2	18.5	18.5
RR	lee?	ie	Standard	0	1.1	1.9	4.6	13.7	19.7	20.7	20.9	20.4	20.4	20.9	20.9

2. Click the **Field Type** menu Undefined ▾, choose **Series...**, then select **Column headings...** if you are changing a series column.

-or-

Click the **Field Type** menu Undefined ▾, choose **Multi-series...**, then select **Column headings...** if you are changing a multi-series column.

3. Make changes to the pattern in the dialog box that appears.
4. Click **OK**.

Reordering columns in a series or multi-series field

You can change the order of series columns in a series or multi-series field.

To reorder columns in a series or multi-series field:

1. Click the **column heading** of the column you want to move, then drag it to the new location.
While you drag, the column stays in its original position until you release the mouse button.
You can tell where the field will be inserted by watching the carat mark .
2. When the column is in the place you want it, release the mouse button.

Note: If you reorder the columns of a series or multi-series field that uses a pattern, InspireData will convert the pattern into a list of values.

Deleting a column in a series or multi-series field

You can delete columns from your series or multi-series field.

To delete a column in a series or multi-series field:

1. Click on the **column heading** of the series column you want to delete.

Column heading

Plant Growth					
File Edit Table Plot Slide Show Windows Help					
123 ✓ ✕					
Notes not available					
Owner	Condition	Height			
		2	5	9	
GB	Standard	0.4	1.7	1.9	
GB	Standard	0	1.1	1.9	

2. On the **Edit** menu, choose **Delete**.

Note: If you change the column heading in a series or multi-series field that uses a pattern, InspireData will convert the pattern into a list of values.

Working with multi-series subfields

You can add, duplicate, rename and make other changes to subfields.

Adding a new subfield to a multi-series field

You can add a subfield to record to accommodate new data.

To add a subfield to a multi-series field:

1. Select the multi-series field you want to add a subfield to.
2. On the **Table** menu, select **Add Subfield**.
3. Type a name for the new subfield, then press **Enter** (Windows) or **Return** (Macintosh).

A new subfield is added for each record in your table.

Selecting a subfield in a multi-series field

Subfields appear as rows in a multi-series field. Each record will have an identical set of subfields. When you select an entire subfield and make changes, such as copying, pasting or renaming, the change will affect each record.

To select a subfield:

- Click on the **subfield heading** you want to select. The subfield heading is the darker-colored cell on the left side of the multi-series field.

Click here to select this subfield



Measurements							
	2	5	9	12	16	19	23
Height	0.4	1.7	1.9	3.2	7.5	14	17
Width	0.1	0.5	0.6	1.0	2.2	4.2	5.1
Leaf Count	0	0	0	0	2	4	7

When you select a subfield, the subfield you clicked on and the corresponding subfield in every other record will turn orange to indicate that it is selected.

Duplicating a subfield in a multi-series field

If you need to add a subfield to each record with data identical or similar to an existing subfield, you can create a duplicate of that subfield.

To duplicate a subfield:

1. Click on the **subfield heading** you want to duplicate. The subfield heading is the darker-colored cell on the left side of the multi-series field.
2. On the **Edit** menu, choose **Copy**.

3. On the **Edit** menu, choose **Paste Special**, then select **Add Fields to Multi-series**.

The copied subfield will be added to each record. Pasted subfields are added below your current selection.

Renaming a subfield in a multi-series field

You can change the names of the subfield headings in a multi-series field.

Since the subfield headings in each record must be the same, renaming a subfield in one record will automatically update the corresponding subfield in the other records.

To rename a subfield:

1. Click on the **subfield heading** to select the subfield you want to rename. The subfield heading is the darker-colored cell on the left side of the multi-series field.
2. Type a new name for the subfield.
3. When you are finished, press **Enter** (Windows) or **Return** (Macintosh).

-or-

Click the **Accept** button  to accept the changes or the **Reject** button  to reject the changes.

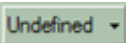
The name of the subfield will be changed for each record.

Changing the data type or formatting of a subfield in a multi-series field

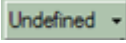
You can change the formatting or field type for the data contained in a subfield.

Since the formatting and data type of a subfield must be the same for each record, changing the data type or formatting of a subfield in one record will automatically update the corresponding subfield in the other records.

To change the data type or formatting of a subfield:

1. Click on the **subfield heading** of the subfield you want to change.
2. Click the **Field type** button  and choose a field type.

-or-

Click the **Field Type** button  and choose **Field Format...**

For more information on field types or field formatting, see Setting the data type of a field on page 76.

Reordering subfields in a multi-series field

Since the order of the subfields in each record must be the same, reordering a subfield in one record will automatically update the corresponding subfields in the other records.

To reorder subfields in a multi-series field:

1. Click on the **subfield heading** you want to move, then drag it to the new location.

While you drag, the subfield remains in its original position until you release the mouse button. You can tell where the field will be inserted by watching the carat mark  as you drag.

2. When the subfield is in the place you want it, release the mouse button.

Deleting a subfield from a multi-series field

If you make changes in your experiment or study, you may no longer need a particular subfield. Since the number of subfields in each record must be the same, deleting a subfield in one record will automatically delete the corresponding subfield in the other records.

To delete a subfield:

1. Click on the **subfield heading** of the subfield you want to delete..
2. On the **Table** menu, choose **Delete Subfield**.

Using subtables

Subtables are useful when you want each record to contain a unique number of subfields and subrecords.

For example, if you were cataloging information about the planets in the Solar system, you could use a subtable to list information about the moons of each planet.

Subtable fields and subtable records can be selected, copied, pasted and more, just like regular fields and records. For more information on how to do these things, see *Working with fields* on page 70 and *Working with records* on page 82.

Creating a subtable field

To create a subtable field:

1. Click on the **field heading** of the field you want to add a subtable to.
2. Click the **Field type** button, and choose **Subtable**.
3. To add new fields to your subtable, click the **Add Field** button  in the **Toolbar**.

New subtables contain two subfields named *Field 1* and *Field 2*. You can move, copy, paste and set the data type for subfields just as you do with regular fields. For more information, see *Working with fields* on page 70.

Adding a subfield to a subtable

You can add more subfields to your table.

To add a subfield to a subtable:

1. Select the subtable field you want to add a subfield to.
 2. On the **Table** menu, choose **Add Subfield**.
- or-

Click the **Add Field** button  in the **Toolbar**.

New subfields are added to the end of the series of the subtable.

Adding a subrecord to a subtable

When you create a subtable, none of its records contains subrecords.

To add a subrecord to a subtable:

1. Select the cell in the subtable field of the record you want to add a subrecord to.
2. On the **Table** menu, choose **Add Subrecord**.

You can move, copy, paste and set the data type for subrecords just as you do with regular records. For more information, see Working with records on page 82.

Expanding and collapsing a subtable

You can expand and collapse subtables, and you can switch between the expanded and collapsed versions in order to see different views of the data. For example, the table below has a single value record (Neptune) and several subrecords.

Planet	Orb. Distance	Moons							
		Name	Distance	Orbital Period	Inclination	Eccentricity	Discoverer	Date	
Neptune	4504300	Naiad	48	0.29	0.0	0.0	Voyager 2	1989	
		Thalassa	50	0.31	4.5	0.0	Voyager 2	1989	
		Despina	53	0.33	0.0	0.0	Voyager 2	1989	
		Galatea	62	0.43	0.0	0.0	Voyager 2	1989	
		Larissa	74	0.55	0.0	0.0	Reitsema(h)	1989	
		Proteus	118	1.12	0.0	0.0	Voyager 2	1989	
		Triton	355	-5.88	157.0	0.0	Lassell	1846	
		Nereid	5513	360.13	29.0	0.75	Kuiper	1949	

When expanded, the table has eight single value records as shown.

Planet	Orb. Distance	Name	Distance	Orbital Period	Inclination	Eccentricity	Discoverer	Date
Neptune	4504300	Naiad	48	0.29	0.0	0.0	Voyager 2	1989
Neptune	4504300	Thalassa	50	0.31	4.5	0.0	Voyager 2	1989
Neptune	4504300	Despina	53	0.33	0.0	0.0	Voyager 2	1989
Neptune	4504300	Galatea	62	0.43	0.0	0.0	Voyager 2	1989
Neptune	4504300	Larissa	74	0.55	0.0	0.0	Reitsema(h)	1989
Neptune	4504300	Proteus	118	1.12	0.0	0.0	Voyager 2	1989
Neptune	4504300	Triton	355	-5.88	157.0	0.0	Lassell	1846
Neptune	4504300	Nereid	5513	360.13	29.0	0.75	Kuiper	1949

To expand a subtable:

1. Select the subtable field you want to expand.

2. On the **Table** menu, choose **Transform**, then select **Expand**.

The table now includes one record for each row of the subtable. The data that was not included in the subtable, e.g., the orb distance, is repeated for every record.

To compress a subtable:

1. Select the leftmost field with redundant data you want to compress. (In the prior example, it would be the Planet field.)
2. On the **Table** menu, choose **Transform**, then select **Collapse**.

Instead of data being repeated for each row, the table now contains just one record with a subtable and subrecords.

Converting structured fields

You may need to convert one kind of structured field into another kind. When you convert a structured field containing data, InspireData will attempt to preserve as much of the data as possible.

To convert one type of structured field into another:

1. Select the field you want to convert.
2. On the **Toolbar**, click the **Field Type** menu and select the field type you want to change to.

Depending on the field type you choose, you may be presented with options. For more information, see the documentation for that field type.

InspireData will attempt to translate the original field's data into the new structure as logically as possible.

If the conversion will result in a loss of some data, InspireData will ask if you want to continue. If the results are not acceptable, choose **Undo** from the **Edit** menu.

Moving series columns and subfields in and out of structured fields

You can move series columns and subfields in series, multi-series and subtable fields around the table.

To move a series column or subfield out of a structured field:

1. Select the series column or subfield you want to move, then drag it to the new location.

While you drag, the series column or subfield remains in its original position. You can tell where the field will be inserted by watching the carat mark .

2. When the series column or subfield is in the place you want it, release the mouse button.

You can also drag single value columns into a series, multi-series or subtable field.

InspireData will automatically adapt the series column or subfield you moved to its new location to match the new structure.

Chapter 9: Creating plots

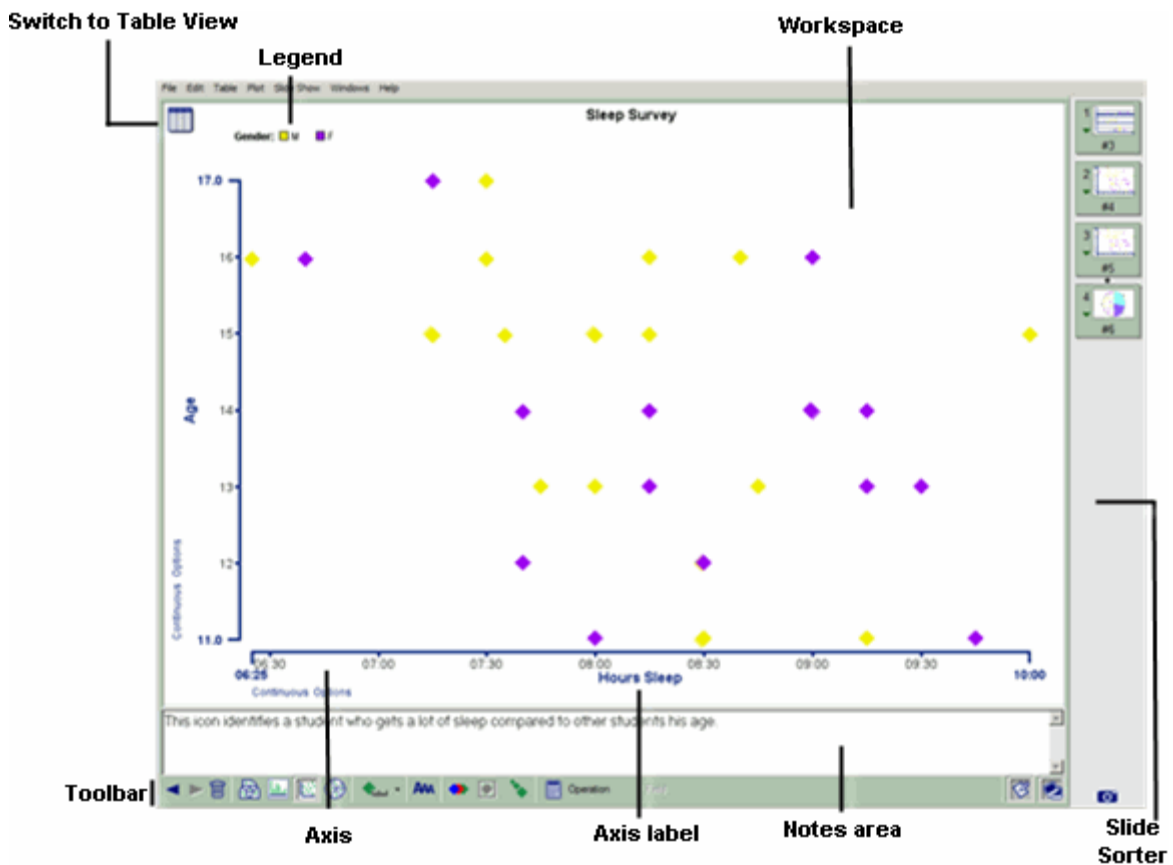
Each plot type—Venn, Stack, Bar chart, Axis and Pie—represents your data in a unique way. Seeing the data in these visual representations reveals hidden patterns, correlations and relationships. The data can be animated to bring about an even deeper understanding.

The data for your plots is taken directly from the Table View. In Plot View, the data is represented by icons. Exploring data in Plot View does not change the data in Table View.

Tools for creating plots

InspireData provides a variety of tools to manipulate, mark and identify the data in your plot, for example, a legend, an axis label, an area for notes, a slide sorter so you can create a slide show of your data and more. The workspace is where you will set and change the parameters for each plot.

In Plot View, the Toolbar is located at the bottom of the screen.



The Toolbar in Plot View

The most commonly used functions in InspireData can be found on the Toolbar.

Click . . .	. . . to do this
	Navigate backward and forward through your recent plots.
Back/Forward	
	Start your plot over from scratch. (Note: Does not delete any data or slides.)
Clear plot	
	Switch to the Venn Diagram plot type.
Venn Plot	
	Switch to the Stack plot type.
Stack Plot	
	Switch to the Axis plot type.
Axis Plot	
	Switch to the Pie plot type.
Pie Plot	
	Turn icon labels on and off. Click  to select Label options.
Label	
	Change text size for icons, axis labels, title, and notes.
Text Size Control	
	Change the color of the icons using values from a field.
Color by Field	
	Place a box around the selected icon.
Mark	
	Increase or decrease the size of the icons.
Size	
	Display or hide calculations. Click the Operation and Field buttons to select calculation parameters.
Compute	



Note

Display or hide notes for the plot or selected icon.

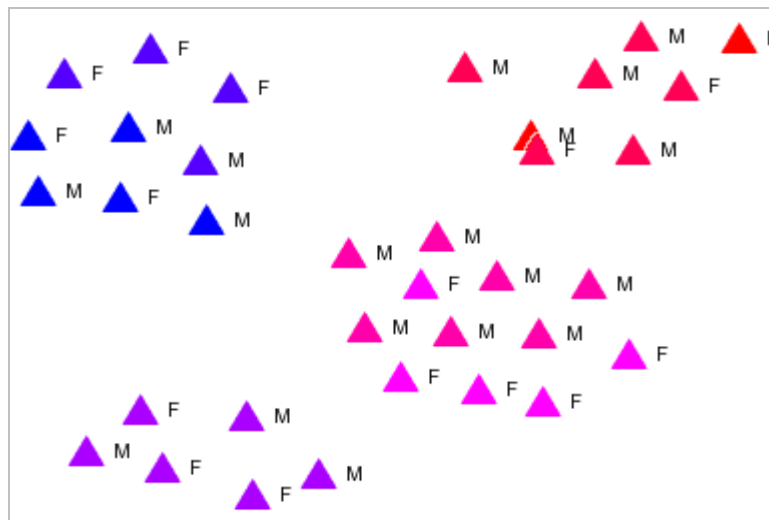


Slide Sorter

Open the Slide Sorter.

Creating a Free plot

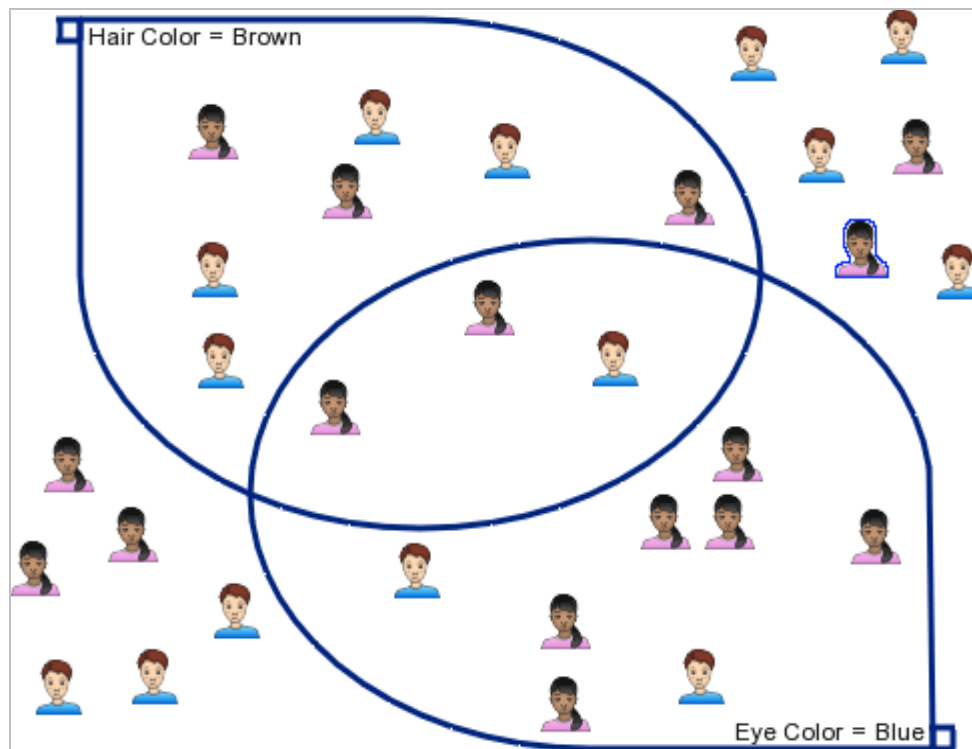
Switching from Table View to Plot View for the first time creates a Free plot. With a Free plot you can move the icons on the workspace without restrictions.



After you create a Venn, Stack, Axis or Pie plot, you can always return to the Free plot by clicking on the Plot type button of the plot that is currently being displayed. For example, if your plot type is Pie plot, you would click the Pie plot button to return to Free plot.

The Color by Field and Label options are useful in Free plots as well as other plot types. For more information, see Coloring icons to enhance information in a plot on page 176 and Labeling icons in Plot View on page 175.

Chapter 10: Making a Venn plot



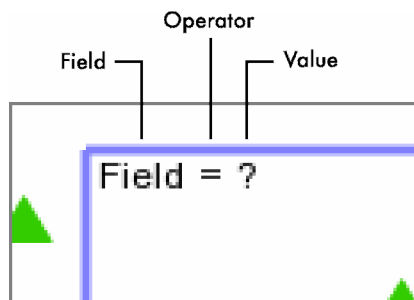
A Venn plot—like a Venn diagram—separates data into groupings (Venn loops) based on characteristics that you specify. With InspireData, a Venn plot can contain up to three loops.

Creating a Venn plot

With a Venn plot you can identify common characteristics between two or three groups of objects or people.

To create a Venn plot:

1. In Plot View, click the **Venn Plot** button  on the **Toolbar**.



A Venn loop appears. In the corner of the loop is the equation **Field = ?**. How you fill out this equation will determine which records will be placed within that loop.

2. Click on the word **Field** and choose the field you want to include or exclude.
3. Click on the **equals sign (=)** and choose an operator to use.

4. Click on the **question mark (?)** and enter or choose a value to include or exclude.

All the icons (records) that meet the criteria you set will move into the loop; those that do not will move out of it.

Note: You can also use formulas to define Venn loops by clicking on **Field** and choosing **Formula...** For more information, see [Using formulas on page 195](#).

Changing the parameters of a Venn loop

You can change your criteria for a Venn loop at any time. Records will move in and out of the Venn loop to match your new settings.

To change the parameters of a Venn loop:

1. Click on the field choice you used when you originally defined your **Venn loop equation**, then select a new variable you want to include or exclude.
2. Click on the **operator** (the symbol in the middle of the equation) and choose an operator to use.
3. Click the **value** in the equation and enter or choose the new value you want to include or exclude.

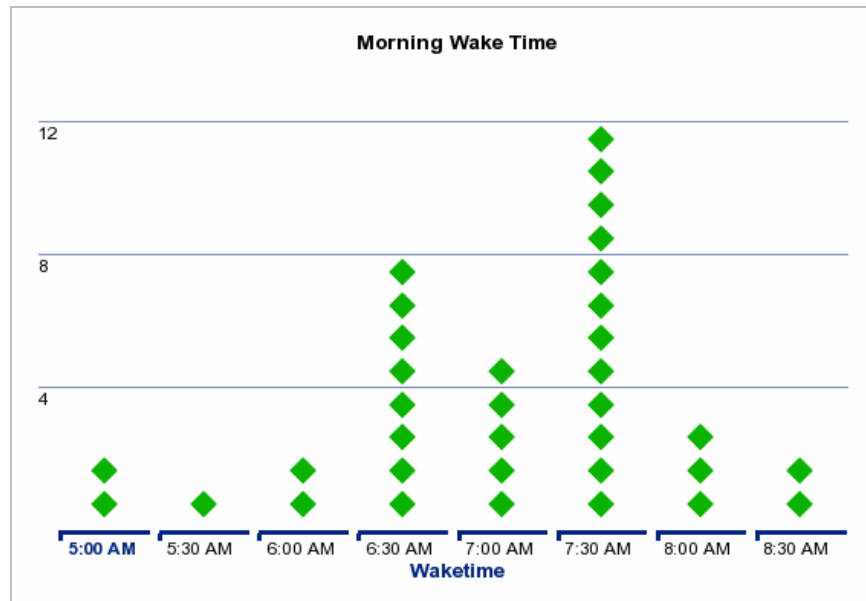
Adding a loop to a Venn plot

Once you've created a Venn plot, you may want to add another loop. A Venn plot can contain up to three loops.

To add a Venn loop:

1. In the lower-left corner of the workspace, click the **Add Venn Loop** button .
2. Click on the word **Field** and choose the field you want to include or exclude.
3. Click on the **equals sign (=)** and choose an operator to use.
4. Click on the **question mark (?)** and enter or choose a value to include or exclude.

Chapter 11: Making a Stack plot



A Stack plot divides the data from your fields into categories or “stacks.” The more records a category contains, the taller the stack. You can also horizontally stack icons along a vertical axis or create Stack plots containing two axes, which will divide the plot into a grid.

You can easily switch a stack plot to a bar chart so that icons are no longer visible and only the height or width of the data on the axis is represented. For more information, see Using a bar chart on page 142.

Creating a Stack plot

With a Stack plot you can represent the number of records contained within a set of categories or a range of numbers.

To create a Stack plot:

1. In Plot View, click the **Stack Plot** button  on the **Toolbar**.

The icons will form a single stack in the center of the workspace.

2. Click on the **Axis Label**, then choose the field you want to assign.

After you assign a field to the X axis, the records will move into their proper categories. You can change the field assigned to the axis at any time. The numbers on the left side of the plot can help you count the number of icons in a stack.

Note: When there are more categories in your document than there is room to display, InspireData will create an **Other** category where the categories with the lowest quantity of records are combined.

Using a Bar chart

Stack plots and Bar charts are so similar that a stack plot can easily be changed to a bar chart and back again.

To switch to a bar chart:

1. In Plot View, click on the **Stack Plot** button  on the **Toolbar**.
2. Click on the **Bar Chart** button  in the lower-left corner of the workspace.

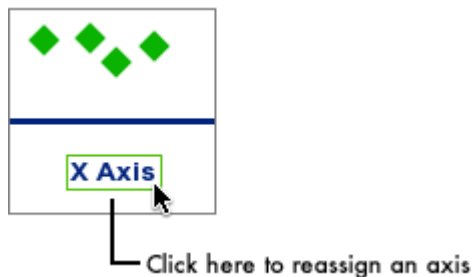
You can toggle back and forth between a Stack plot and a Bar Chart at any time while working with a Stack plot.

By default, the bar colors match the **Color Scheme** selected under **Table Properties** in the **Table** menu. You can change the colors by clicking on the **Color by field** button  in the **Toolbar**.

Note: You can control the width of the bar with the Icon size button  in the **Toolbar**.

Reassigning a field to an axis

When you assign a field to an axis, InspireData plots the values contained in that field. You can reassign an axis at any time. Axes are available in Stack, Axis and Pie plots.



To reassign a field to an axis:

1. In Plot View, click the **Axis Label** of the axis you want to reassign.
2. Choose a field from the menu that appears.

The label will change to display the name of the field you selected.

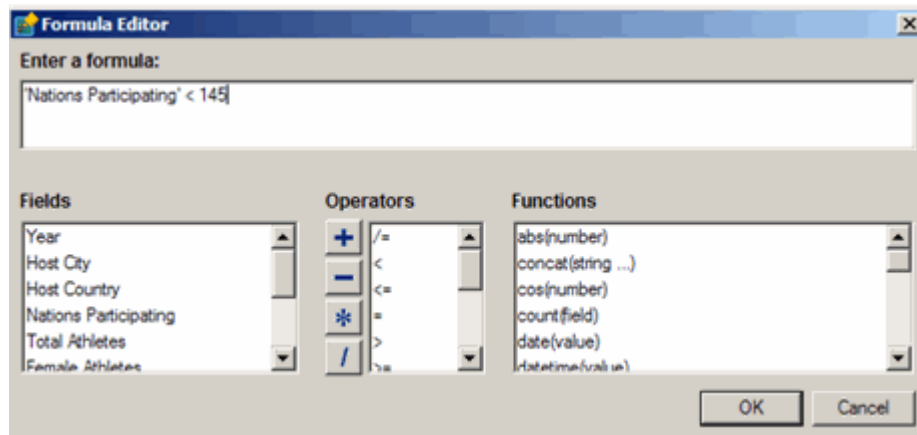
Assigning a formula to an axis

You assign a formula to an axis by using the data in one or more fields.

To assign a formula to an axis:

1. In Plot View, click the **Axis Label** of the axis you want to assign a formula to.

2. Choose **Formula...** from the menu that appears.



The Formula Editor opens showing a list of the field headings on your table, as well as operators and functions.

3. Enter your formula either by double clicking the field, operator and function, or simply type your formula into the top box of the dialog.

If your formula contains illegal syntax (syntax that InspireData cannot use to produce a result based on your formula), an error message will appear beneath the Formula box.

4. When you are finished, click **OK**.

The Axis Label will change to display your formula.

Note: To use a function, select the one you want from the Functions box, then replace the text between the parentheses (usually **number**, **string**, **value** or **field**) with one of the field headings in the Field box. When a function asks you to specify a **field**, that field must be either a series, multi-series or subtable field.

For more information, see Using formulas on page 195.

Changing the axis type in a Stack plot

In a Stack plot, you can assign any type of field to an axis, e.g., categorical, numerical, etc. The data type of the field determines how InspireData divides the axis into categories.

If you assign a numerical field, such as age, InspireData creates a range axis and sets a minimum and maximum value and appropriate intervals, e.g., 10-12, 13-15, etc. With numerical values, you can change the axis type from range to category.

You cannot change the axis type for a categorical field, such as color.

To change the axis type in a Stack plot:

1. Click the **Axis Type** menu of the axis you want to change.

The **Axis Type** menu displays the currently selected axis type. For example, for a range axis, you would click the word **Range**.

2. Choose the axis type you want to change to.

Reordering categories in a Stack plot

When an axis in a Stack plot is set to a text or true/false field, the category with the highest number of records is shown first, the category with the second highest next, and so on. You can rearrange the order of the categories at any time.

To reorder categories in a Stack plot:

1. Click the label of the category you want to move.
2. Drag the label to the new location.

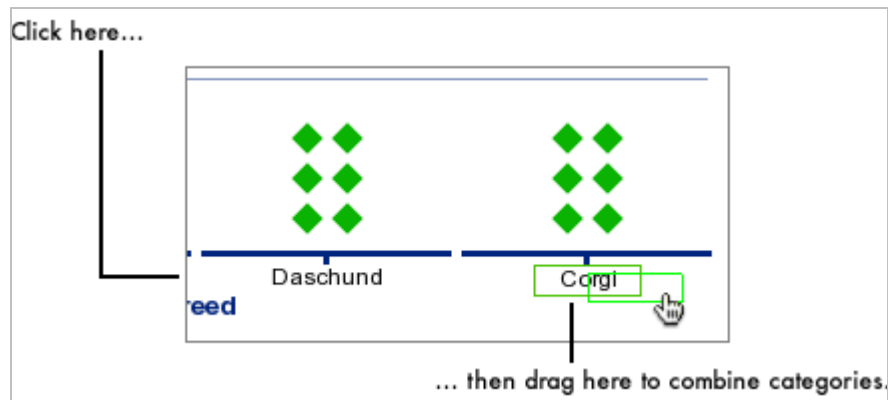
When you drag, the category remains in its original position until you release the mouse button. Watch the icon (the green diamond ♦) as you drag.

3. Release the mouse button to insert the category where you want it.

Note: To return to the original order of categories, click the **Reset** button next to the axis you want to reset.

Combining categories into a supercategory in a Stack plot

You can combine categories into supercategories to clarify your plot. For example, your plot might contain data on a group of dogs listed by their breeds. If you wanted to find out how many small, medium and large dogs you had, you could combine categories to fit those criteria.



To combine categories in a Stack plot:

1. Click the label of one of the categories you want to combine.
2. Drag the label onto the label of a category you want to combine it with.

When you drag, the category remains in its original position until you release the mouse button. You can tell which category will be combined by watching for a green box around the category's label.

3. When the category is in the place you want it, release the mouse button.
4. Type a name for your new supercategory.

You can combine as many categories as needed.

Note: Combining categories does not change icon coloring or alter the data in Table View.

Removing a category from a supercategory in a Stack plot

1. Click the diamond  next to the supercategory you want to remove a category from.
2. Choose the category you want to remove from the menu.

Renaming a supercategory

1. Click the diamond  next to the combined category.
2. Choose **Rename Supercategory** from the menu.

Dissolving a supercategory

1. Click the diamond  next to the supercategory you want to dissolve.
2. Choose **Dissolve Supercategory** from the menu.

Note: You can dissolve all of the supercategories on an axis at one time by clicking the **Reset** button next to the axis you want to reset.

Changing the maximum and minimum values of a range axis

You can change the minimum and maximum values displayed in a range axis. All records that fall below the minimum or exceed the maximum values you define are placed in the far left or right subdivisions, respectively.

To change the minimum value of a range axis:

1. Click the smallest number in the range axis you want to change.
2. Type the new minimum value, then click the **Accept**  button.

To change the maximum value of a range axis:

1. Click the **Max:** button next to the range axis you want to change.
2. Type the new maximum value, then click the **Accept**  button.

Note: To reset the options for a range axis, click the **Reset** button next to the axis you want to reset.

Changing the range step of a range axis

A range step is the size of the interval on a range axis. InspireData automatically calculates the range step based on how much room is available in the workspace window. You can adjust the size of the range step.

To change the range step of a range axis:

1. Click the **Step:** button next to the range axis you want to change.
2. Type the new range step, then click the **Accept**  button.

Note: To reset the options for a range axis, click the **Reset** button next to the axis you want to reset.

Changing the orientation of a Stack plot

In Stack plots, icons are stacked vertically on a horizontal axis by default. You can also stack icons horizontally, left to right on a vertical axis.

To create a parallel Stack plot:

- Click the **Stack Plot Type** button  in the lower-left corner of the workspace and choose the horizontal (fourth choice) Stack plot type.

Creating a parallel Stack plot

If you need to create stacks that reflect more than one attribute, parallel Stack plots enable you to do this by adding a second axis to your plot.

To create a parallel Stack plot:

1. In Plot View, click the **Stack Plot** button on the **Toolbar**.
2. Click the **Stack Plot Type** button  in the lower-left corner of the workspace and choose the vertical (second choice) or horizontal (fifth choice) parallel Stack plot type.
3. Click on the **Axis Label** for each axis and choose the field you want to assign.

Creating a mirror Stack plot

A mirror Stack plot is a special kind of parallel stack plot. One of the axes in a mirror Stack plot (called the pivotal axis) will always display only two categories and stack the items in each category in mirror directions.

For example, if your plot included information about a group of dogs, you could assign gender to the pivotal axis and the breed of dog to the other axis to see how many of each breed were male or female. The icons in the top category will be stacked upwards and the icons in the bottom category will be stacked downwards.

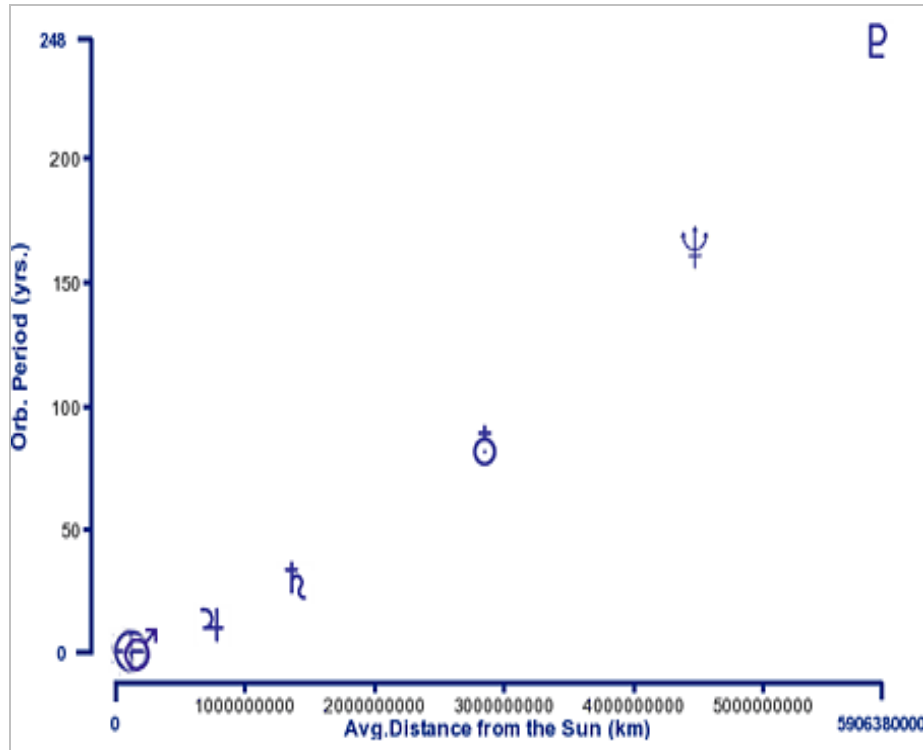
To create a mirror Stack plot:

1. In Plot View, click the **Stack Plot** button on the **Toolbar**.
2. Click the **Stack Plot Type** button  in the lower-left corner of the workspace and choose the vertical (third choice) or horizontal (sixth choice) mirror Stack plot type.
3. Click on the **Axis Label** for each axis and choose the field you want to assign.

Chapter 12: Making an Axis plot

An Axis plot contains an X axis (horizontal) and a Y axis (vertical). Axis plots are ideal for investigating correlation between two variables.

If your plot included data about the planets in the solar system, you could assign the planets' distance from the sun to one axis and the orbital period (number of days in each planet's year) on the other. The plot below shows a strong, positive correlation between the two variables.



Creating an Axis plot

Axis plots show correlations between two fields, especially if those fields contain numerical data, dates or times.

To create an Axis plot:

1. In Plot View, click the **Axis Plot** button  on the **Toolbar**.
2. Click on the **Axis Label** for each axis, then choose the field you want to assign.

You can change the field assigned to an axis at any time by clicking the label of the axis you want to change, then choosing a different field from the list that appears.

Displaying lines for continuous data

When you create an Axis plot where both axes are numeric and continuous data, you can display the Axis plot as a Line Graph, and you can include a Line of Best Fit.

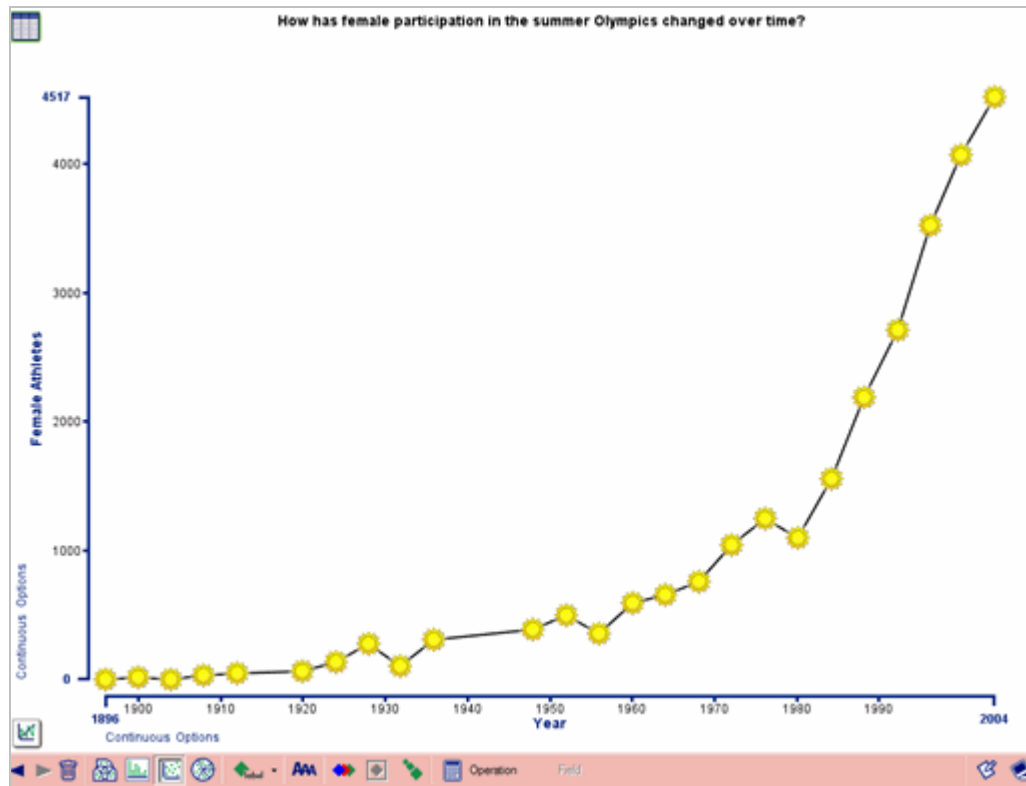
Displaying a Line Graph

When you create an Axis plot where both axes are numeric and continuous, you can display a Line Graph. Line Graphs are useful for displaying data or information that changes continuously over time.

To display a Line Graph:

1. Make sure both axes represent numerical data and the axes are set to be continuous.
2. Click on the **Line Type** button  in the lower left corner of the workspace.
3. Choose **Line Graph** from the menu that appears.

A black line will connect each of the records in the workspace, as shown:



For more information on the types of axes, see Changing the axis type in an Axis plot on page 151.

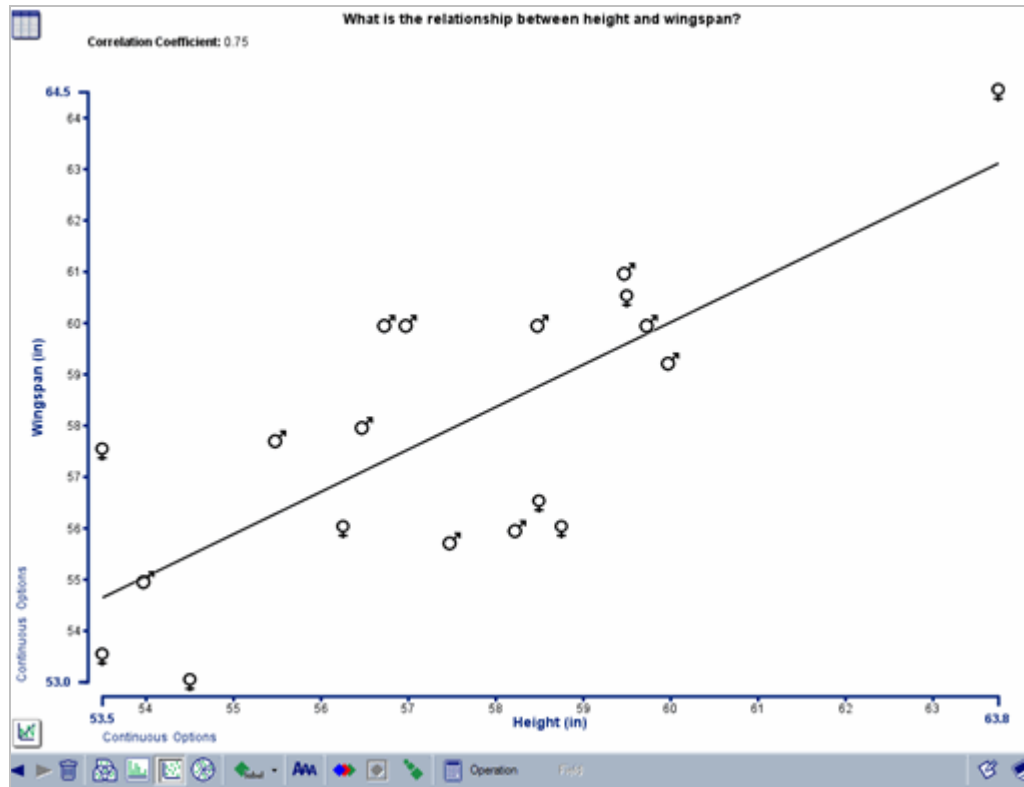
Displaying a Line of Best Fit

When you create an Axis plot where both axes are numeric and continuous, you can display a Line of Best Fit. A Line of Best Fit is useful for determining the direction of correlation between two fields.

To display a Line of Best Fit:

1. Make sure both axes represent numeric data and the axes are set to be continuous.
2. Click on the **Line Type** button  in the lower left corner of the workspace.
3. Choose **Line of Best Fit** from the menu that appears.

A straight black line will display to reflect the linear correlation between the two variables plotted, as shown:

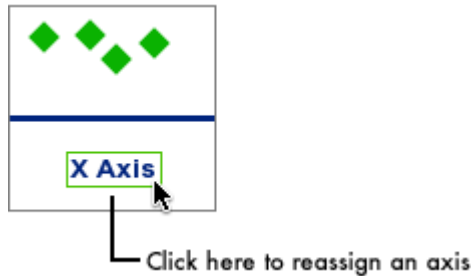


The **Correlation Coefficient** of the line is displayed on the workspace in the upper left hand corner.

The Pearson product-moment correlation coefficient gives a measure of the reliability of the linear relationship between the x and y values. The correlation coefficient falls between -1 and 1. A positive correlation coefficient indicates that as one variable increases, so does the other. A negative correlation coefficient indicates that as one variable increases, the other decreases. The farther the coefficient is from 0, the stronger the relationship.

Reassigning a field to an axis

When you assign a field to an axis, InspireData plots the values contained in that field. You can reassign an axis at any time. Axes are available in Stack, Axis and Pie plots.



To reassign a field to an axis:

1. In Plot View, click the **Axis Label** of the axis you want to reassign.
2. Choose a field from the menu that appears.

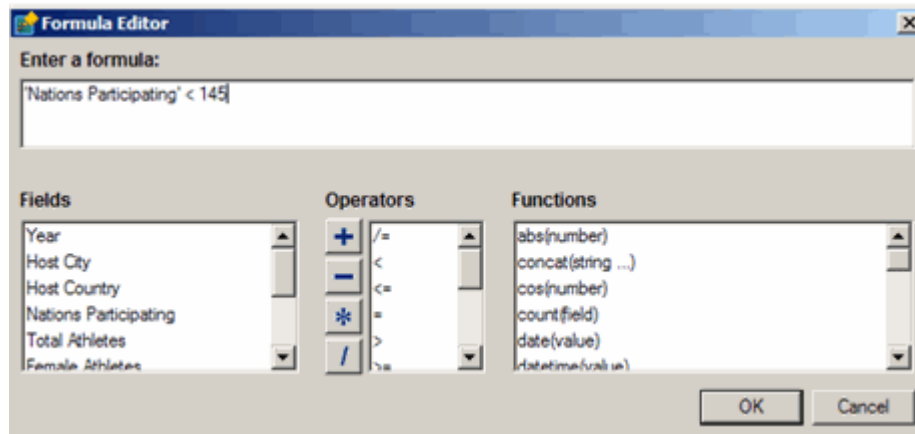
The label will change to display the name of the field you selected.

Assigning a formula to an axis

You assign a formula to an axis by using the data in one or more fields.

To assign a formula to an axis:

1. In Plot View, click the **Axis Label** of the axis you want to assign a formula to.
2. Choose **Formula...** from the menu that appears.



The Formula Editor opens showing a list of the field headings on your table, as well as operators and functions.

3. Enter your formula either by double clicking the field, operator and function, or simply type your formula into the top box of the dialog.

If your formula contains illegal syntax (syntax that InspireData cannot use to produce a result based on your formula), an error message will appear beneath the Formula box.

4. When you are finished, click **OK**.

The Axis Label will change to display your formula.

Note: To use a function, select the one you want from the Functions box, then replace the text between the parentheses (usually **number**, **string**, **value** or **field**) with one of the field headings in the Field box. When a function asks you to specify a **field**, that field must be either a series, multi-series or subtable field.

For more information, see Using formulas on page 195.

Changing the axis type in an Axis plot

You can assign any type of field to an axis in an Axis plot. How InspireData displays the axis depends on the data type of the field you assign.

If you assign a field that is: InspireData will create this type of axis:

Text or True/False	Category axis
Number, Date, Time or Datetime	Continuous axis

With a category axis, InspireData creates a subdivision for each unique value in a field.

With a continuous axis, InspireData will set the minimum and maximum values of the axis based on the values in the field you select. Each icon is plotted precisely along the axis.

You can convert a continuous axis into a range axis. A range axis displays values in equal intervals. Range and continuous axes can also be converted into category axes.

You cannot change the axis type for axes assigned to text or true/false fields.

To change the type of an axis in an Axis plot:

1. Click the **Axis Type** menu of the axis you want to change.

The **Axis Type** menu displays the currently selected axis type. For example, for a continuous axis, you would click the word **Continuous**.

2. Choose the **Axis Type** you want to change to.

Note: Using category or range axes, you can create a grid; using continuous axes, you can create a scatter plot. You can also create a hybrid of the two by using multiple axis types.

Changing the maximum and minimum values of a range axis

You can change the minimum and maximum values displayed in a range axis. All records that fall below the minimum or exceed the maximum values you define are placed in the far left or right subdivisions, respectively.

To change the minimum value of a range axis:

1. Click the smallest number in the range axis you want to change.
2. Type the new minimum value, then click the **Accept**  button.

To change the maximum value of a range axis:

1. Click the **Max:** button next to the range axis you want to change.
2. Type the new maximum value, then click the **Accept** ✓ button.

Note: To reset the options for a range axis, click the **Reset** button next to the axis you want to reset.

Changing the range step of a range axis

A range step is the size of the interval on a range axis. InspireData automatically calculates the range step based on how much room is available in the workspace window. You can adjust the size of the range step.

To change the range step of a range axis:

1. Click the **Step:** button next to the range axis you want to change.
2. Type the new range step, then click the **Accept** ✓ button.

Note: To reset the options for a range axis, click the **Reset** button next to the axis you want to reset.

Changing the maximum and minimum values of a continuous axis

You can change the minimum and maximum values displayed in a range axis. This is useful when the data in your table contains a group of records that contain very similar values for a given field while other records have a much higher or lower value in the same field.

To change the minimum value of a continuous axis:

1. Click the smallest number in the continuous axis you want to change.
2. Type the new minimum value, then click the **Accept** ✓ button.

To change the maximum value of a continuous axis:

1. Click the largest number in the continuous axis you want to change.
2. Type the new maximum value, then click the **Accept** ✓ button.

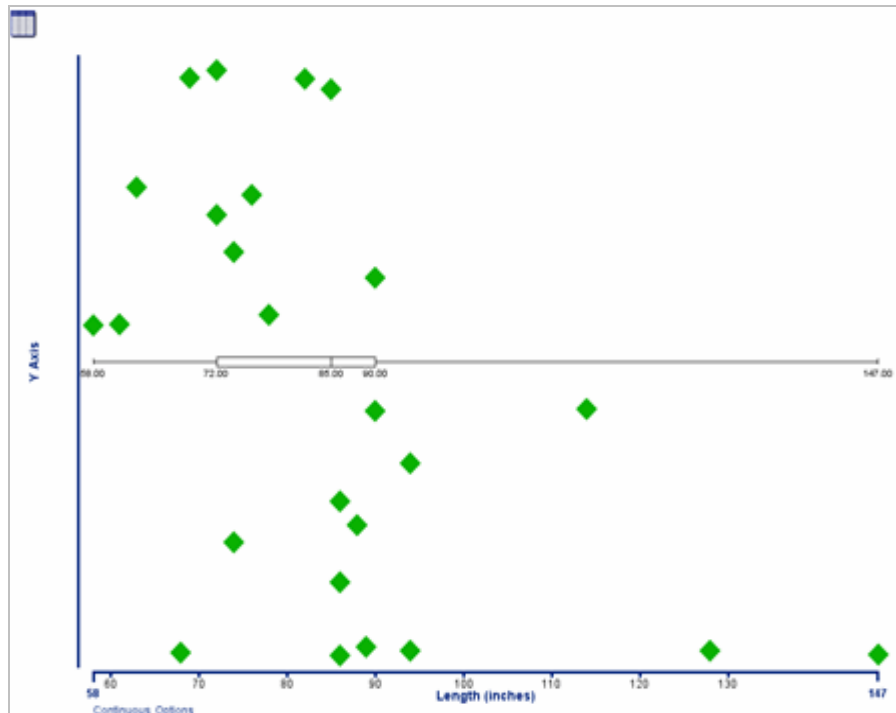
Note: To reset the options for a continuous axis, click the **Reset** button next to the axis you want to reset.

For information about changing these values for a range axis, see [Changing the maximum and minimum values of a range axis](#) on page 145.

Creating a Box plot in an Axis plot

A Box plot can be created from an Axis plot. A Box plot visually represents the median, the range and the quartiles of a set of numeric data. It consists of:

- a box that encloses the interquartile range (the range in which the middle half of the data points fall)
- a line through the box that indicates the median
- lines (known as “whiskers”) that extend to the extreme values (minimum and maximum) of the data in a field.



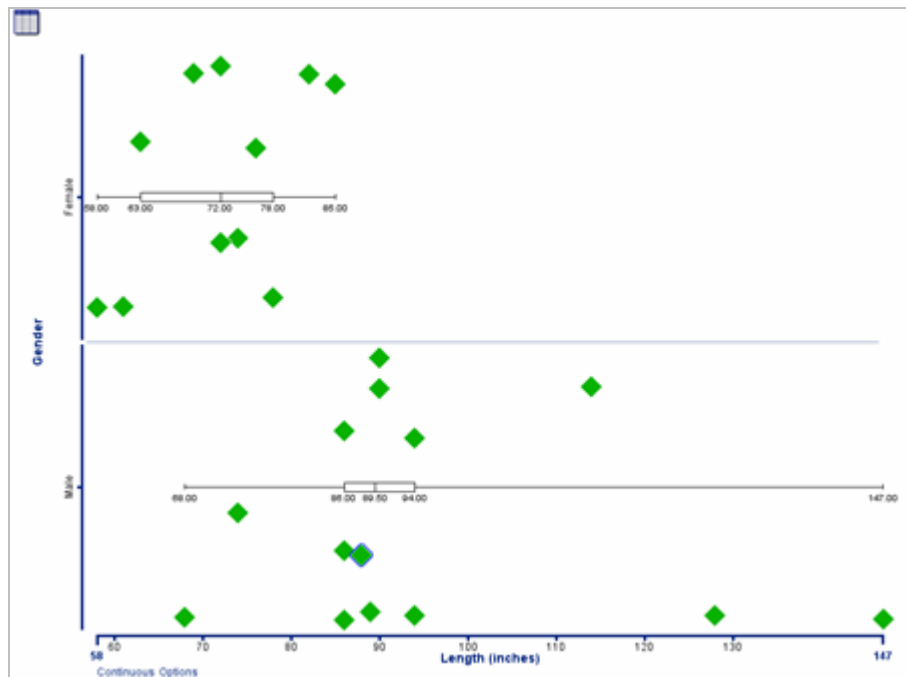
To create a box plot:

1. On the Toolbar, click on the **Axis Plot** button.
2. Select a numeric field for *one* of the axes.
3. On the **Plot** menu, choose **Box Plot**.

Optional: You can select **Box Plot Options** from the **Plot** menu and choose **Add numeric labels to box plots**. This will display the 5-number summary (minimum, quartile 1, median, quartile 3 and maximum) on your box plot.

Multiple box plots are often used to show differences in a numeric field across a second categorical (Text or True/False) field.

- a. Click on the Axis that is not yet assigned, then choose a categorical field (a field that you have defined as either Text or True/False).



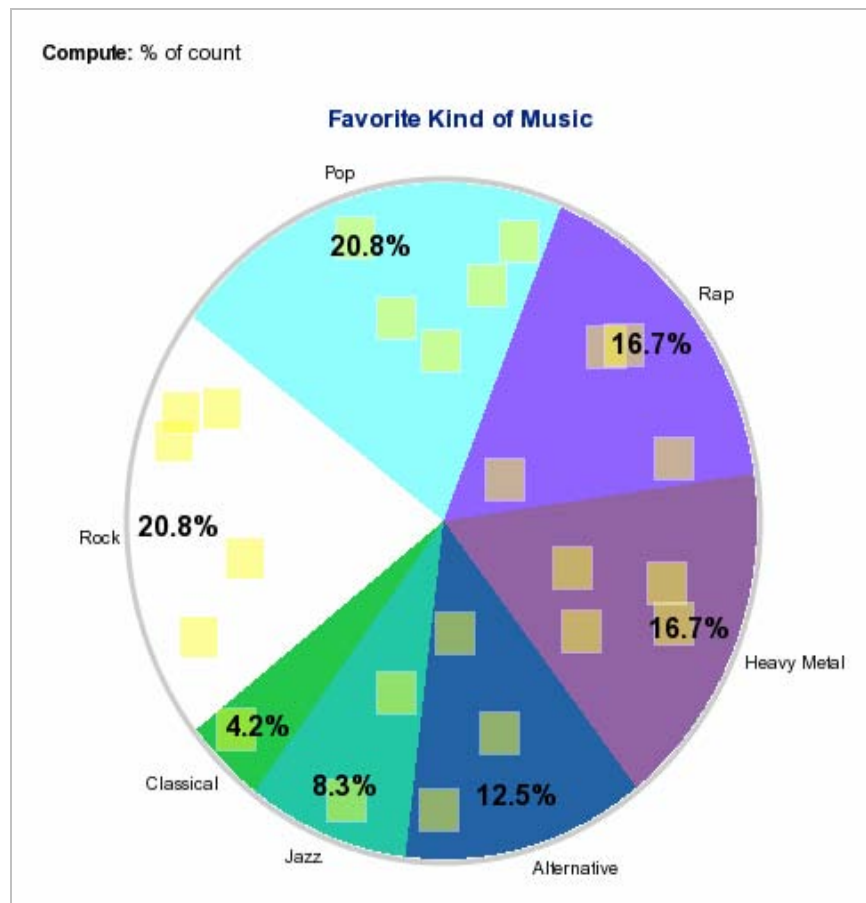
Applying the IQR method to a Box plot

You might prefer to use the interquartile range (IQR) method as an alternative for drawing the whiskers of a Box plot. Rather than extending to the extremes of the data, the whiskers have a length that is proportional to—usually one and one half times—the interquartile range. (Interquartile range is the difference between the upper and lower quartiles.)

To apply the IQR method to a Box plot:

1. On the **Plot** menu, choose **Box Plot Options...**
2. Choose the **IQR** radio button.
3. If desired, change the multiplier by typing in the text box next to the IQR radio button.
4. Click **OK**.

Chapter 13: Making a Pie plot



A Pie plot divides the values within a field into sections.

InspireData allows you to create two types of pie plots: count or % of total. Depending on which choice you make, the size of each section will be:

- Proportional to the number of records it contains, or
- Proportional to the size of its quantity in relation to the sum of values in that field

InspireData allows you to display several Pie plots at the same time.

Unlike Stack and Axis plots, Pie plots do not treat numbers as ranges. Each numerical value is treated as its own unique section.

Creating a Pie plot

To create a Pie plot:

1. In Plot View, click the **Pie Plot** button  on the **Toolbar**.

Since no field is assigned yet, all of the icons will be in the pie but there will be no sections.

2. Click on the **Select Field** menu at the top of the workspace, then choose the field you want to assign.
3. If your field contains numeric data, **Count** in the lower left corner of the workspace will be the default. However, you can click on **Count** and select **% of Total** if you want to display the pie proportional to the quantity of all records being plotted for the field selected.

If your field contains non-numeric data, you will not see the Count option on your workspace.

After you assign a field to the pie, the records will move into their proper categories. To change the assigned field, click on the currently selected field name.

Note: If there are too many unique values for each to have its own section, the values that appear least often will be combined into an *Other* section.

Making a Pie plot for a categorical field

Some fields are defined categorically, such as Text, True/False and Date fields. For categorical fields, a Pie plot divides the values into sections according to Count.

To make a Pie plot for a categorical field:

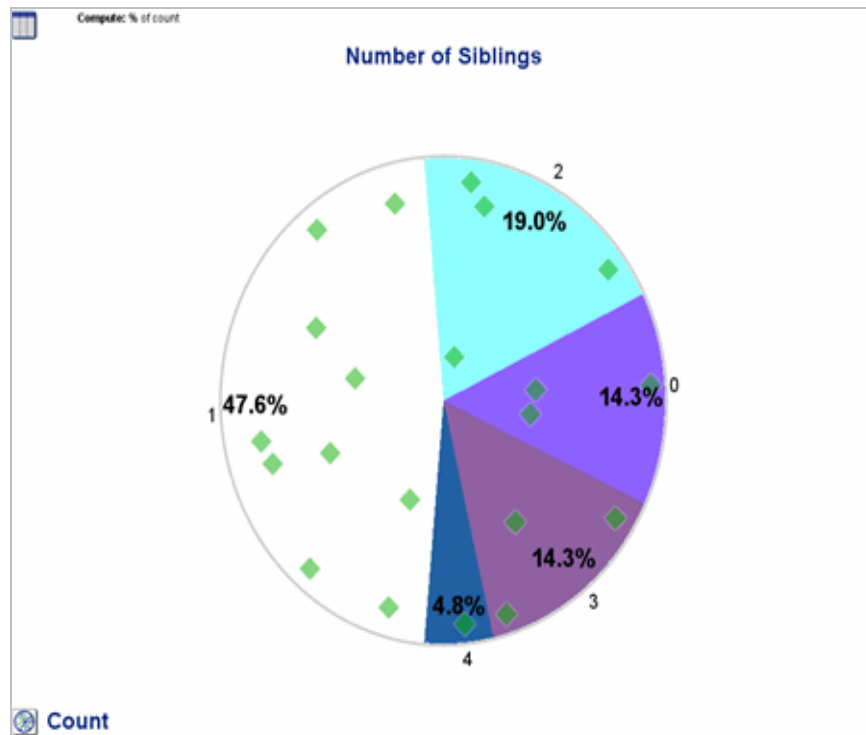
1. In Plot View, click the **Pie Plot** button on the **Toolbar**.
2. Click on **Select Field**, then choose a field that contains categorical data (e.g., a Text, True/False or Date field).

The size of each section is proportional to the number of records it contains. The more records in a section, the larger the section.

Making a Pie plot for a numerical field

For fields that are defined numerically (e.g., Number and Time fields), InspireData gives you two options for creating a Pie plot: You can use Count or % of Total.

For example, in the Pie Plot example shown, the field selected from a table of survey data was Number of Siblings. InspireData's default for Pie plots is Count. In this case, Count is appropriate because we want to count all of the records that contain 1 sibling, all of the records that contain 2 siblings, etc., then size each section of the pie proportionally according to the number of records it contains.



To make a Pie plot for a numerical field using Count:

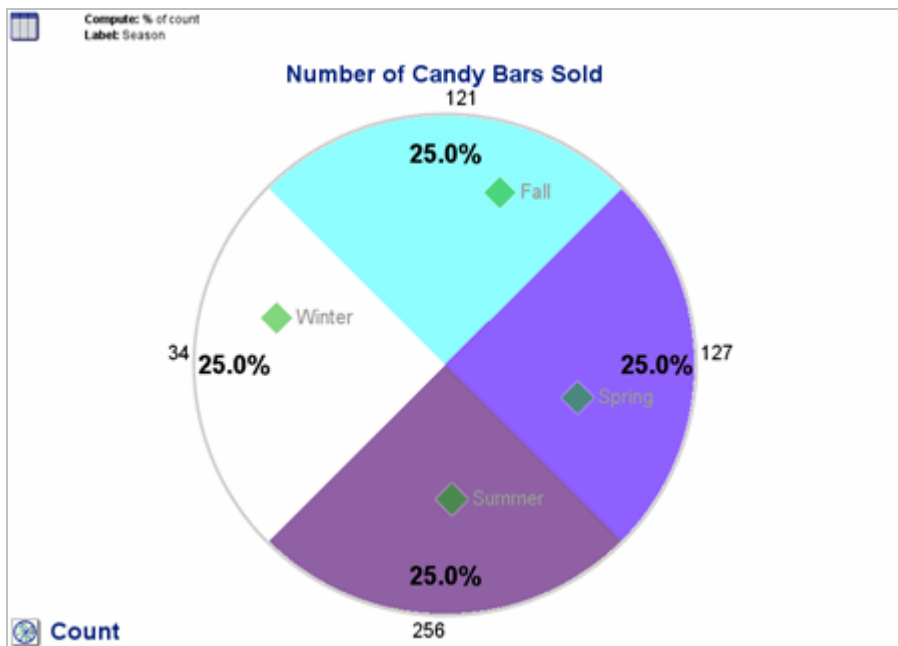
1. In Plot View, click the **Pie Plot** button on the **Toolbar**.
2. Click on **Select Field**, then choose a field that contains numerical data.

Count is the default and will display in the lower left corner of the workspace. You can add computations, such as % of count, to your plot by clicking the **Compute** button on the **Toolbar**.

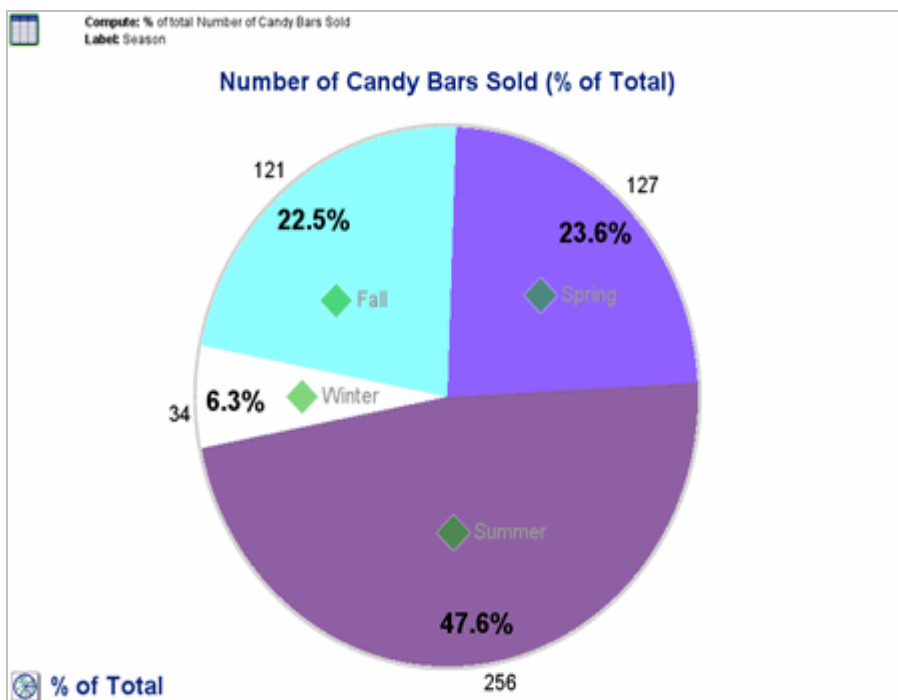
With summary data, such as the data in the table below, a Pie plot by Count is probably not how you want to represent this data.

Season	Number of Candy Bars Sold	
Spring	127	
Summer	256	
Fall	121	
Winter	34	

Since each value occurs only once, the default (which is Count) would yield the plot below showing each section of the pie as the same size.



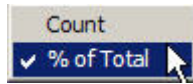
With the summary data shown in the table, a % of Total will yield the desired result, summing the values contained within each cell of the field, then dividing each cell value by the total to determine the size of the sections as a percentage of the whole.



To make a Pie plot for a numerical field using % of Total:

1. In Plot View, click the **Pie Plot** button on the **Toolbar**.

2. Click on **Select Field**, then choose a field that contains numerical data.
3. Click on **Count** in the lower left corner of the workspace.
4. When the menu appears, choose **% of Total**.

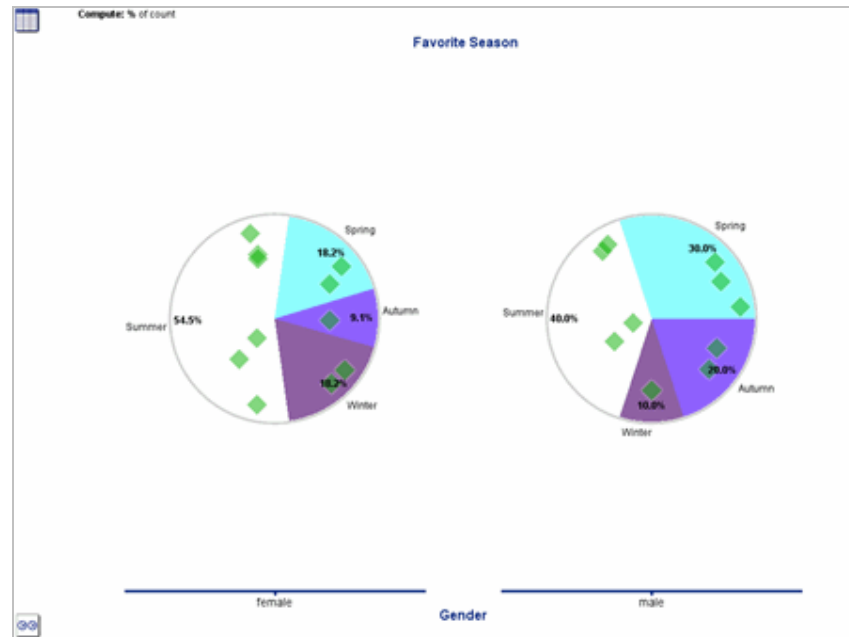


To label icons by another field, click on the **Label by** button  on the **Toolbar** and select a field.

Note: Negative values and records with missing data will not be included in the plot but will be represented in the area to the right of the Pie plot.

Displaying multiple pies in a Pie plot

Displaying multiple pies allows you to show differences across other fields. For example, you may want to see if favorite seasons for a group of students varies by gender:



The number of pies that appear is determined by the size of your document window.

To display multiple pies in a Pie plot:

1. In Plot View, click the **Pie Plot** button on the **Toolbar**.
2. Click the **Pie Plot Options** button  in the lower-left corner of the workspace and choose horizontal (second choice), vertical (third choice) or grid (fourth choice).
3. Click on the **Select Field** menu for each axis and choose the field to assign to the pies.
4. Click on the **Axis Label** for each axis and choose the field to assign.

Note: Multiple pie plots can be displayed for both categorical fields (Text, True/False and Date) and numeric fields (number and time).

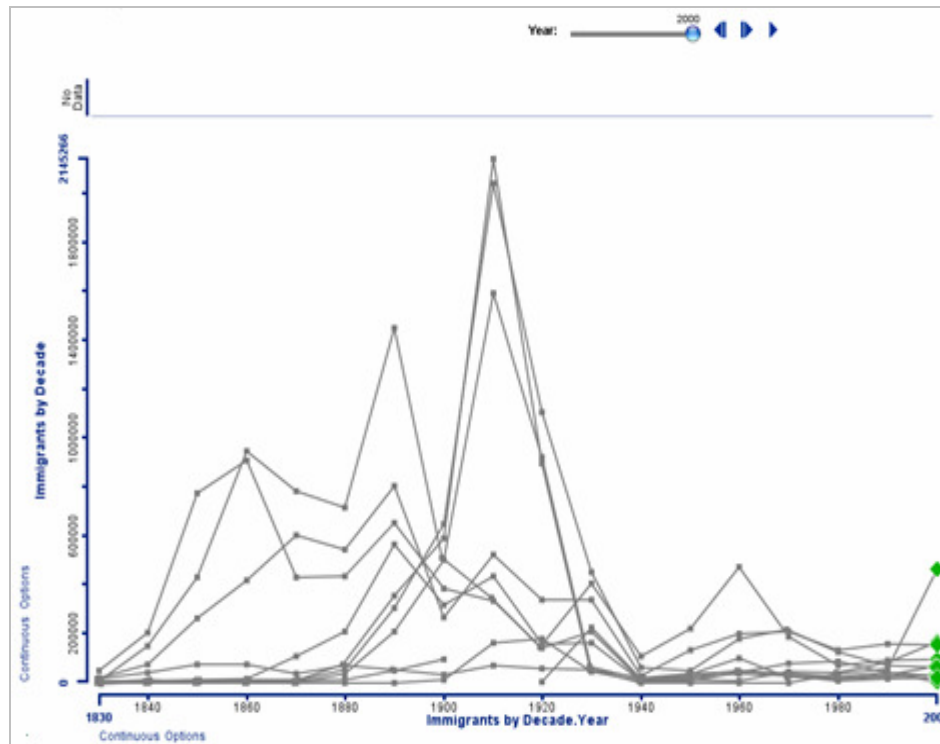
Chapter 14: Plotting series and multi-series fields

Because of their unique structure, series and multi-series fields can create series-based plots.

In the table below, a section of a series field shows changes in immigration over time from several European countries.

1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950
0	0	0	0	7,800	72,969	353,719	592,707	2,145,266	896,342	63,548	11,424	28,329
8,497	45,575	77,262	76,358	35,986	72,206	50,464	30,770	73,379	61,897	49,610	12,623	38,809
6,761	152,454	434,626	951,667	787,468	718,182	1,452,970	505,152	341,498	143,945	412,202	114,058	226,578
20	49	16	31	72	210	2,308	15,979	167,519	184,201	51,084	9,119	8,973
50,724	207,381	780,719	914,119	435,778	436,871	655,482	388,416	339,065	146,181	211,234	10,973	19,789
409	2,253	1,870	9,231	11,725	55,759	307,309	651,893	2,045,877	1,109,524	455,315	68,028	57,661
91	1,201	13,903	20,931	109,298	211,245	568,362	321,281	440,039	161,469	165,780	8,700	20,765
16	369	105	1,164	2,027	12,970	51,806	96,720		4,813	227,734	17,026	7,571
75	277	551	457	2,512	39,284	213,282	505,290	1,597,306	921,201	61,742	1,370	571
25,079	75,810	267,044	423,974	606,896	548,043	807,357	271,538	525,950	341,408	339,570	31,572	139,306

From this data, you could create a plot that visually represents the changes.

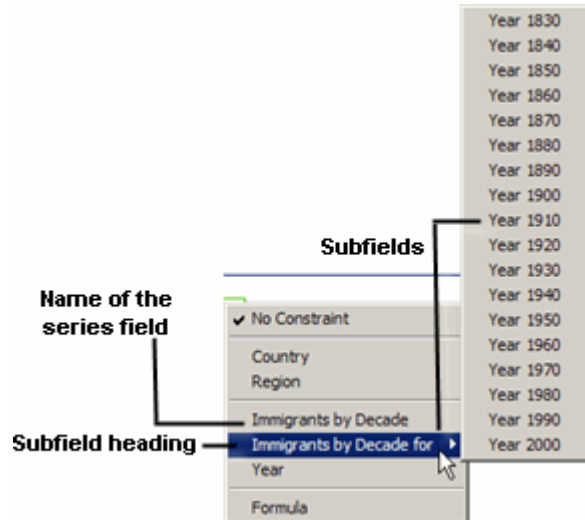


InspireData animates the icons so that you can see how your data changes from subfield to subfield.

You can plot series or multi-series fields in Venn, Stack, Axis or Pie plots.

Assigning a series field to an axis

You can assign a series field to an axis, just as you would assign any other field to an axis. Click on the axis you want to assign a series field to.



You will see a menu that contains:

- The names of the fields in your table (e.g., Country, Region), including the name of the series field (e.g., Immigrants by Decade).
- A subfield heading (e.g., Immigrants by Decade for...).

Choosing the subfield heading opens a submenu listing all of the values for the subfield (e.g., Year 1830, Year 1840, etc.). Subfield headings usually stand for a time interval.

When you plot the series field, a set of series controls appears at the top of the screen.

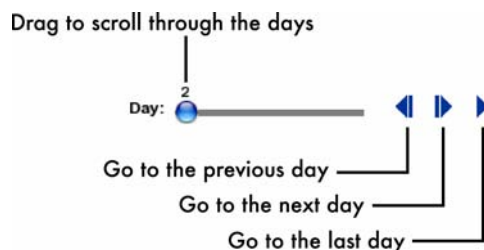


Series controls allow you to navigate back and forth between subfields. For more information, see Using the Series Display controls.

Using the Series Display controls

When you assign a series field to an axis, Venn loop or Pie plot, the Series Display controls appear. These controls allow you to display the various subfields in your series field.

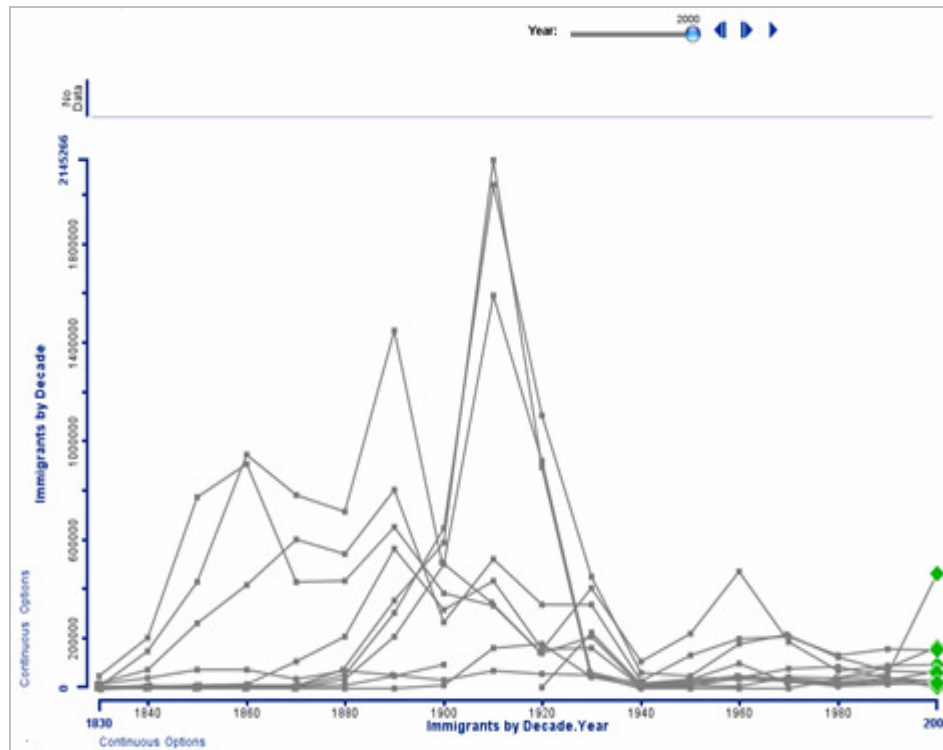
With Series Display controls you can easily animate or scroll back and forth through the data so that you can see how your data changes over time.



Creating a time series graph using Instant Plot

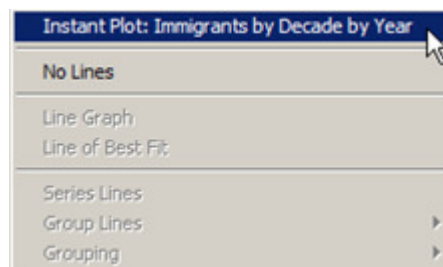
With a time series graph you can explore data that changes over time. You can animate time graphs to see how the values in a group of records changes.

The instant plot below shows changes in the immigration of European immigrants over time.



To create a time series graph using Instant Plot:

1. Create or open a table that contains a series field.
2. Switch to Plot View.
3. Click the **Axis Plot** button on the **Toolbar**.
4. Click the **Axis Plot Options** button  in the lower-left corner of the workspace.



5. Choose **Instant Plot** from the menu that appears.

Next to the words Instant Plot, InspireData will list the attributes it will plot against, such as *Immigrants by Decade by Year*. If your table contains more than one series field or a multi-series field, you will see an Instant Plot option for each possible combination of variables.

The Series Display controls will appear at the top of the screen, allowing you to easily move back and forth through time. For more information, see [Using the Series Display controls](#) on page 161.

Note: You can create time series graphs manually by assigning the name of the series field to the Y axis and the interval to the X axis. For more information, see [Assigning a series field to an axis](#) on page 161. You can also approximate a time series graph using a parallel Stack plot. For more information, see [Making a Stack plot](#) on page 141.

Displaying individual lines in a time series graph

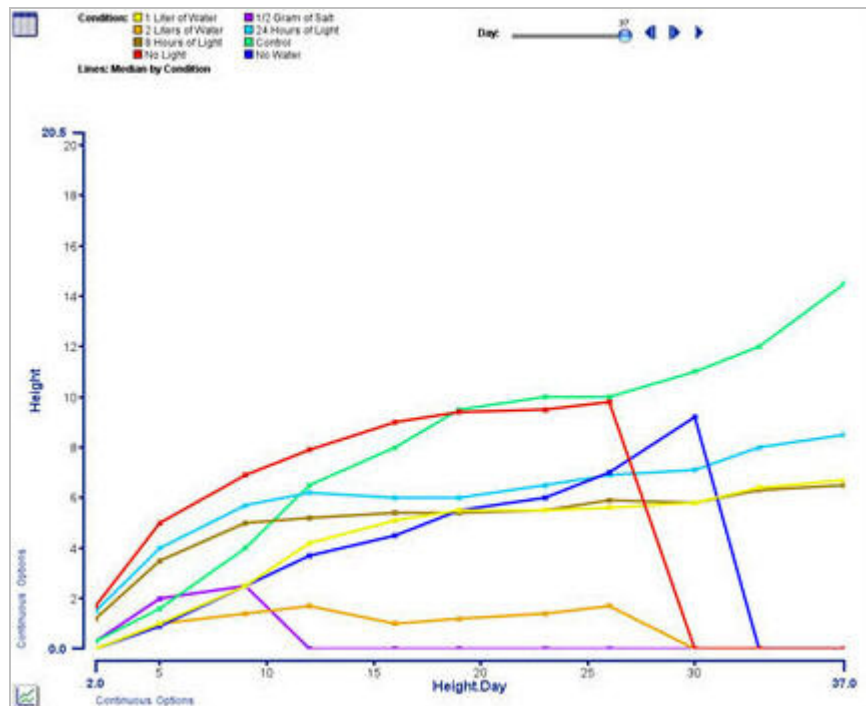
When you create a time series graph using the Instant Plot feature, individual lines are turned on by default. Individual lines allow you to see the values of the subfields preceding the one you have currently displayed.

To turn off individual lines in a time series graph:

- Click the **Plot Options** button  in the lower left corner of the workspace and choose **No Lines** from the menu that appears.

Displaying mean or median group lines in a time series graph

You can visually represent the mean or median of the data in your time series graph. InspireData will hide your icons and display the points that represent the mean or median. If you have several plants for each growing condition in an experiment, for example, you could display the median heights over time for each condition.



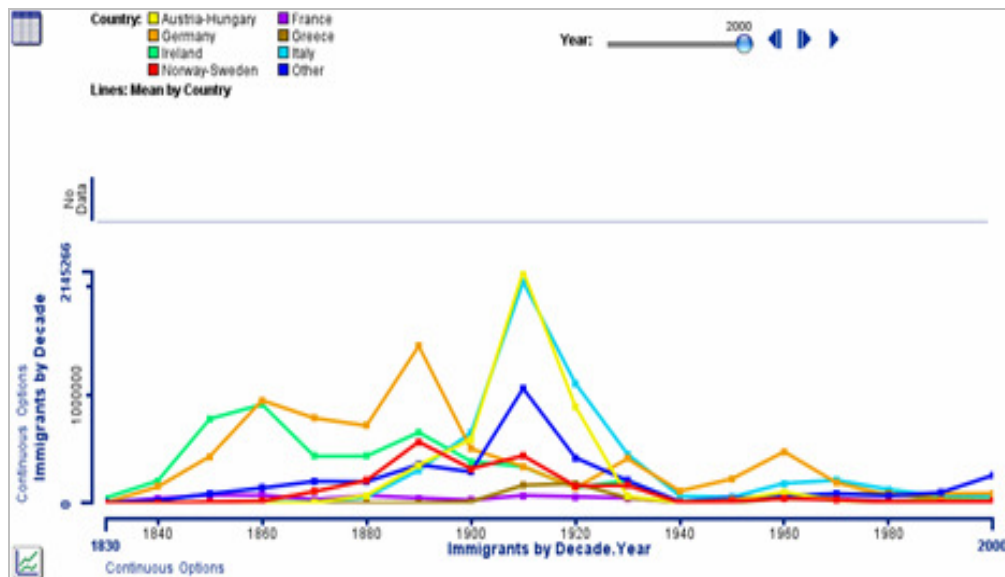
To display mean or median group lines in a time series graph:

- On your time graph, click the **Plot Options** button  in the lower left corner of the workspace, choose **Group Lines**, then select **Median**, **Median and Quartiles**, **Mean** or **Mean and Standard Deviation**.
- To turn off mean or median group lines, choose **No Lines** from the **Plot Options** menu .

When you choose to display the standard deviation for the mean or quartiles for the median, these are represented by a lighter area that appears around the mean/median group lines.

Subdividing mean or median group lines in a time graph

To display mean or median group lines for certain subsets of records in your time series graph, you need to specify a grouping. The grouping will receive its own mean or median line with a unique color.



For example, if your plot included data on the immigration of residents of Europe to the U.S. over time, you might want to see what the mean is for each country.

To subdivide mean or median group lines by category:

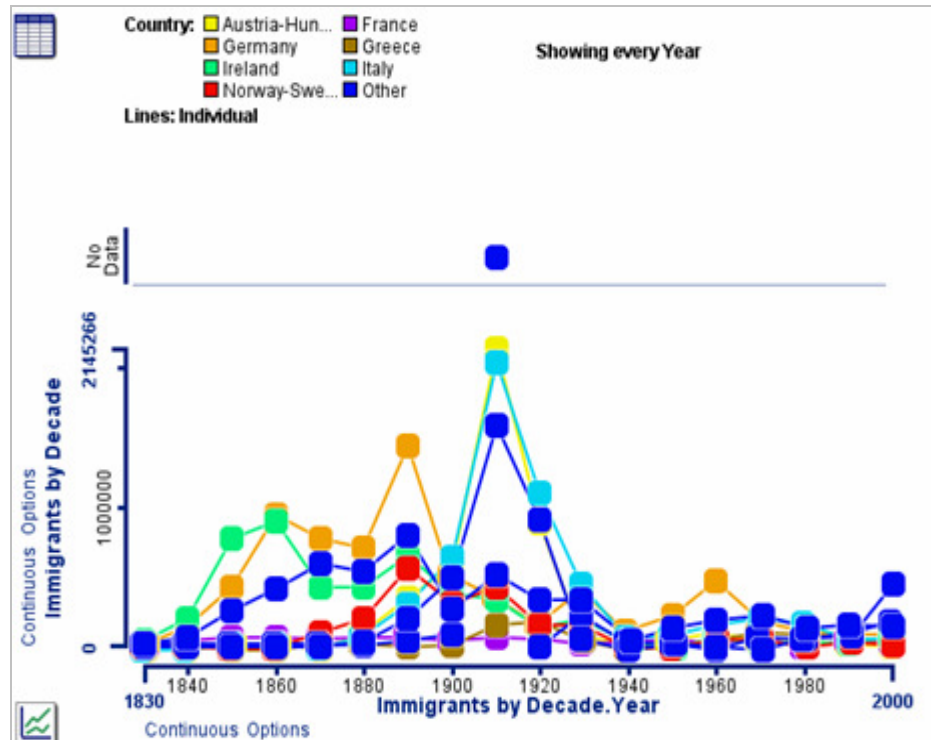
- On your time series graph, click the **Plot Options** button  in the lower left corner of the workspace, choose **Group Lines**, then select **Median**, **Median and Quartiles**, **Mean** or **Mean and Standard Deviation**.
- Click the **Plot Options** button , choose **Grouping**, then select the field you want to subdivide your mean or median lines by.

Multiple mean or median lines will be displayed on your plot. The quantity and coloring method will vary based on your data and the data type of the field you selected.

You can change how your group lines are colored, similar to coloring icons. For more information, see Coloring icons using a text or true/false field on page 178.

Showing every value in a series-based Axis plot

When you have a series or multi-series field plotted in an Axis plot, your icons are displayed at one point along the series (i.e., in one subfield). InspireData can also plot your icons for every subfield in your series field.



To show every value in a series plot:

- On your series-based Axis plot, click the **Plot Options** button in the lower left corner of the workspace and choose **Show Every Value**.

Each icon will split into multiple icons, representing each value in the plotted series field.

Chapter 15: Working with plots

InspireData contains many useful tools to help you view, navigate and customize your plot.

You can increase the size of the text in labels, titles, axes and the notes field using the text size control button in Toolbar at the bottom of the workspace.

To increase text size:

1. Click the **Text Control** button  on the **Toolbar**.
2. Choose which of the three text sizes works best for your plot.
- 3.

Viewing all of a record's data in Plot View

As you create your plots, you may find that you need to know what a particular icon represents. Instead of switching back and forth between Table View and Plot View, you can view all of the data in any icon's record without leaving your plot.



Record "Madeline"	
Name	Madeline
Gender	F
Hair Color	Brown
Eye Color	Blue
Language(s) Spoken	French

To view an icon's record from Plot View:

- Double-click on the icon you want to view.
- or-
- Hover the cursor over the icon you want to view.

The icon's record will be displayed in a small window. The window will disappear when you click elsewhere in your plot. Currently plotted fields appear in bold.

Note: You can change the data in a record only from Table View.

Changing the size of the icons in a plot

You can change the size of the icons in your plot from 128x128 pixels all the way down to 2x2 pixels.

To change the size of the icons in a plot:

1. Click the **Icon Size** button  on the **Toolbar**.
2. On the menu that appears, drag the slider up or down to increase or decrease the size of your icons.
As you drag the slider, the number that appears represents the new size of the icons in pixels.
3. When the icons are at the size you want, release the mouse button.

Note: To return your icons to their original size: On the **Plot** menu, choose **Icon Size** and select **Reset**.

Viewing previously created plots with the Back and Forward buttons

You can browse back and forth through plots you have created, just as you would with web pages in a web browser.

To view previously created plots with the Back and Forward buttons:

1. Click the **Back** button  on the **Toolbar** until you reach the plot you want.
2. If you go too far back, click the **Forward** button  on the **Toolbar**.

When you view a previously created plot and then make major changes to that plot, the Forward button will be cleared (no longer available) so that InspireData can record the changes you have just made. Therefore, be sure to create slides of the plots you want to keep before you make any changes to a previous plot. For more information, see Capturing a slide on page 182.

The following types of changes are recorded:

- Changing plot types
- Changing the fields being plotted
- Changing comparison values in Venn plots
- Changing the axis type
- Changing the axis options
- Turning Compute on or off
- Changing the Compute options
- Changing the icon size
- Changing the time position in a series plot
- Turning Line Graph or Line of Best Fit on or off
- Changing text size

You can make the following types of changes without removing the forward history:

- Changes to markings (box, color, label)
- Changes to line graph features on series plots
- Changes to your notes
- Any Survey option

Note: InspireData will clear a document's back and forward history when you close the document. To permanently save your plots, create slides of them.

Selecting items in Plot View

Selecting icons or regions enables you to use some of InspireData's advanced features such as marking, zooming in, labeling individual icons and more.

Selecting an icon in Plot View

When you select an icon in Plot View, you can mark it, zoom in, label it and more.

To select an icon in Plot View:

1. Click the icon you want to select.

A blue border appears around the icon.

2. To select additional icons, hold the **Shift** key and click the other icons you want to select.

To deselect a single icon, hold the **Shift** key and click the icon you want to deselect. To deselect all icons, click on the workspace.

Note: The icons you select will remain selected, even if you switch plot types or reassign axes. If you switch to Table View, the records of the icons you selected will remain selected.

Selecting regions of a plot

Venn, Stack, Pie and some Axis plots arrange icons into regions. When a region is selected, its background turns light blue.

To select a region:

1. Click inside the region you want to select.

-or-

If you want to select multiple regions that are next to each other, click and drag to select the regions.

2. To select additional regions, hold the **Shift** key, then click the other regions.

To deselect a single region, hold the **Shift** key and click the region you want to deselect. To deselect all regions, click on the workspace.

Selecting an area of a continuous axis

You can select any portion of a continuous axis in an Axis plot.

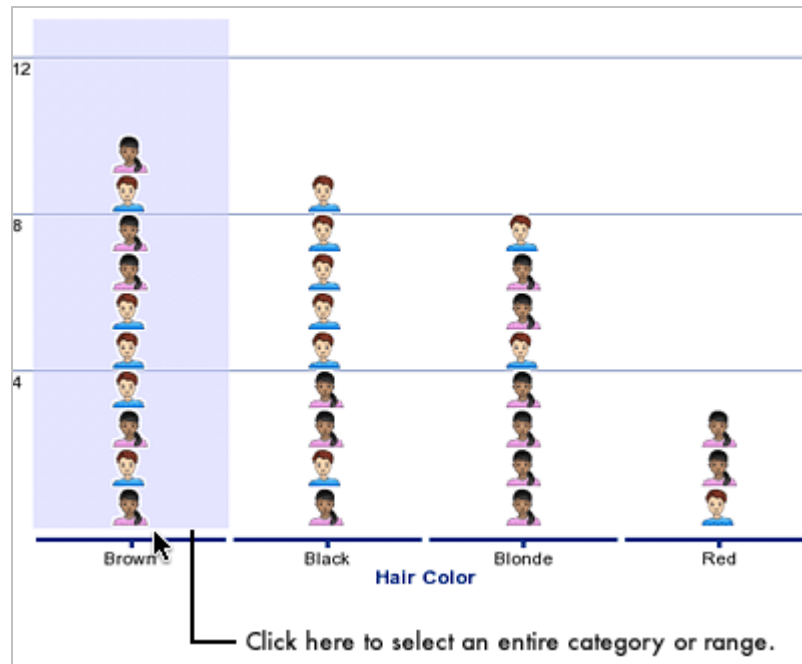
To select an area of a continuous axis:

1. Click and hold the mouse button down as you drag to select an area.
2. Release the mouse button when you have captured the area you want (i.e., when the area is light blue).

To select additional areas, hold the **Shift** key, then repeat the directions in the first two steps.

Selecting a category or range in Plot View

You can select an entire category or range (or, for a continuous axis, the entire area perpendicular to the axis) by clicking in the narrow margin between the plot and the axes.



To select a category or range:

- Click inside the narrow margin between the plot and the axis next to the category or range you want to select.

Note: To select a perpendicular area of a continuous axis, click the mouse button and drag until the area you want is selected, then release the mouse button. To select multiple categories or ranges, click and drag until the items you want are selected, then release the mouse button.

Hiding specific icons in Plot View

When you want to look at a specific set of records, you can focus in on just those records, hiding the others.

For example, if your plot included data on a group of dogs, and you wanted to look at the records for just one particular breed, you could show only the records of that breed and hide all rest. You could then continue to change plot types, assign axes, etc. until you restore the hidden icons. For more information, see *Zooming out or restoring hidden icons* on page 170.

Zooming in on selected icons in a plot

When you zoom in on a subset of selected icons or selected regions in a plot, any icons that are not selected or lie in an unselected region will be hidden.

To zoom in on a subset of data in a plot:

1. In Plot View, select the set of icons or the region you want to zoom in on.

2. On the **Plot** menu, choose **Zoom In**.

-or-

Right-click (Windows) or **Control-click** (Macintosh) anywhere on the workspace and choose **Zoom In**.

Your plot will now display only those records you selected and hide the others.

For more information on selecting, see *Selecting items in Plot View* on page 168.

Zooming out and restoring hidden icons

When you zoom in on selected icons, those that are not selected or lie in an unselected region will be hidden.

To Zoom out or restore hidden icons:

- On the **Plot** menu, choose **View All**.

-or-

On the **Legend**, move your cursor over the word **View** and click in the box next to it.

Hiding or excluding selected icons in a plot

Similar to zooming in, you can exclude a subset of selected icons in a plot. Icons not selected will remain showing.

To hide or exclude selected icons in a plot:

1. In **Plot View**, select the set of icons you want to hide or exclude.
2. On the **Plot** menu, choose **Exclude Selected Icons**.

-or-

Right-click (Windows) or **Control-click** (Macintosh) anywhere on the workspace and choose **Exclude Selected Icons**.

The icons you selected will be hidden.

Follow the directions above to exclude selected regions. For more information on selecting, see *Selecting items in Plot View* on page 168.

Note: To show excluded icons, choose **View All** on the **Plot** menu or **Right-click** (Windows) or **Control-click** (Macintosh) anywhere on the workspace, then choose **View All**.

Hiding icons using a formula

You can exclude a subset of your icons using formulas. The result is similar to zooming in.

To hide icons using a formula:

1. On the **Plot** menu, choose **View Constraint...**
2. Enter your formula, then click **OK**.

The icons that fall outside the parameters of your formula become hidden. For more information, see Using formulas on page 195.

Note: To restore hidden icons, choose **View All** on the **Plot** menu.

Displaying mean and median data on a plot

You can represent mean and median values visually in your Stack and Axis plots.

- On a continuous axis, the mean and median are shown as colored perpendicular lines that are plotted along the axis according to their value.
- On a range axis, the range in which the mean or median falls is highlighted.

The numerical value of the mean or median will be displayed near the line or highlight for both type of axes.

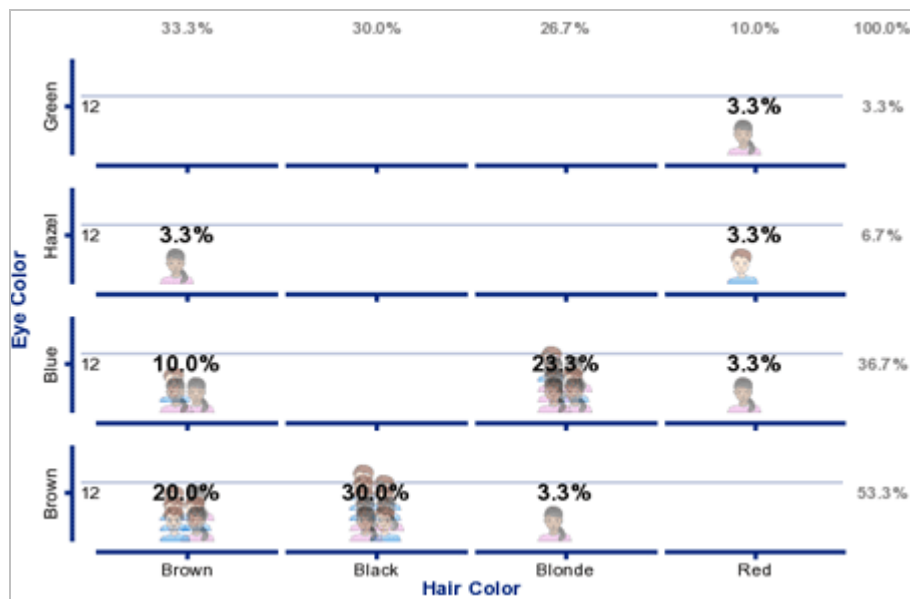
To display mean and median data on a plot:

1. Click the **Options** button next to the axis you want to display mean or median data for.
2. Choose **Show Mean** or **Show Median** from the menu that appears.

Both the mean and the median can be displayed at the same time.

Computing and displaying summary data on a plot

In Plot View, you can compute basic statistical information such as counts, averages and totals. These computations are displayed on your plot.



The parallel Stack plot above displays the number of people for each combination of hair and eye color. The Compute tool was used to show the percentage of each hair and eye color combination.

To display a computation on a plot:

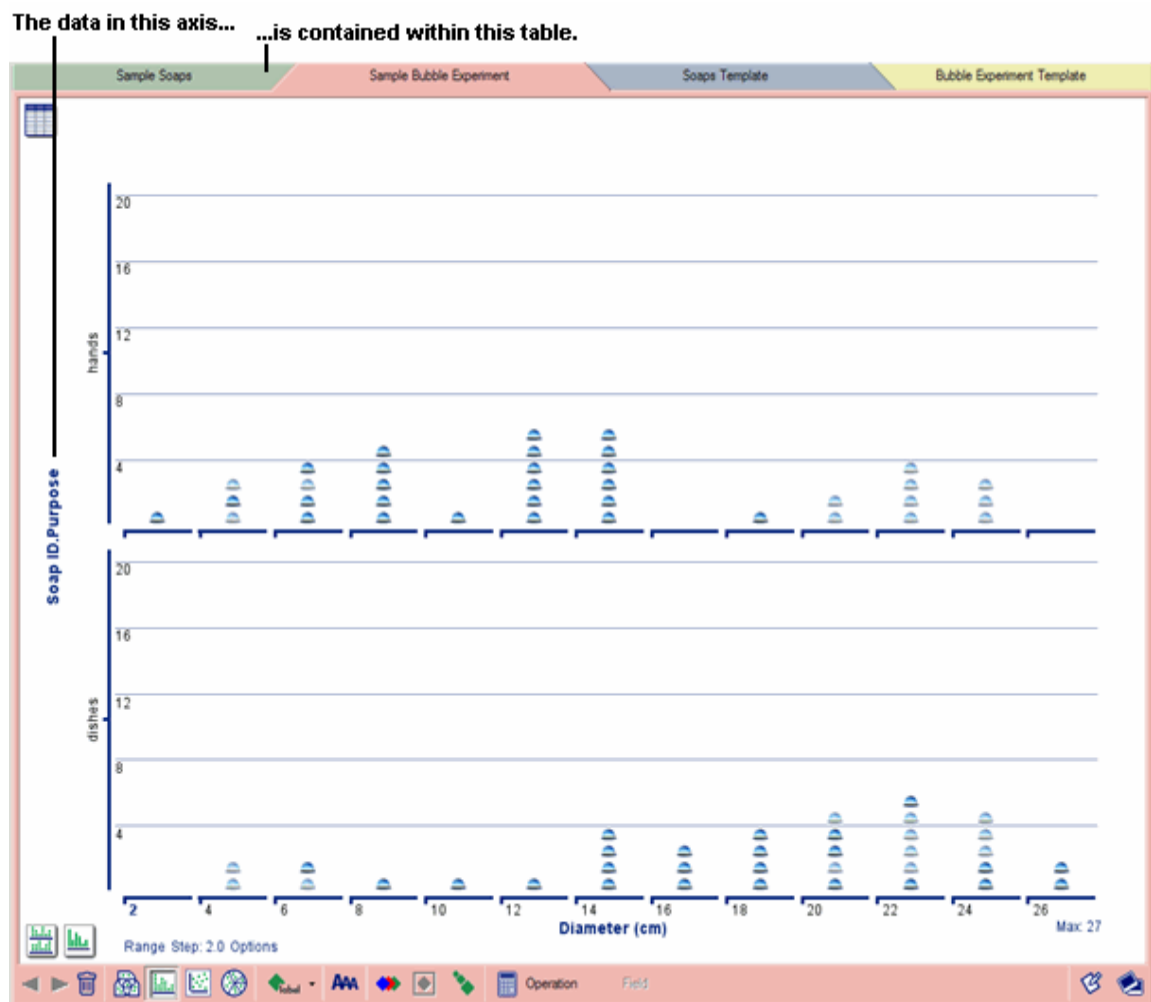
1. Click the **Compute** button  on the **Toolbar**.

2. Click the **Operation** button on the **Toolbar** and choose the operation you want to use.
If you chose **Count** or **% of Count**, you do not need to perform the next step.
3. Click the **Field** button on the **Toolbar** and choose the field you want to use in your computation.

Click the Compute button again to turn the computation display workspace off. The computation will be shown in the Legend at the top of the screen.

Note: When a computation is not fully specified (e.g., *Total* with no field selected) or the computation is invalid (e.g., *Largest* with a true/false field selected), InspireData will display two question marks (??).

Plotting link fields



You can plot data contained within another table using link fields.

For example, a database might contain a table with information about the diameters of soap bubbles from an experiment, as shown above. Each bubble can be linked to information about the soap that was used to create it because this information is contained within another table in the

same document. So you can plot each bubble's diameter against its soap's purpose, even though the information is in different tables.

For more information about setting up link fields, see [Creating a link field](#) on page 121.

Clearing a plot

If you want to start a plot over from scratch, you can use the Clear tool to clear all settings instead of turning off each feature individually.

To clear a plot:

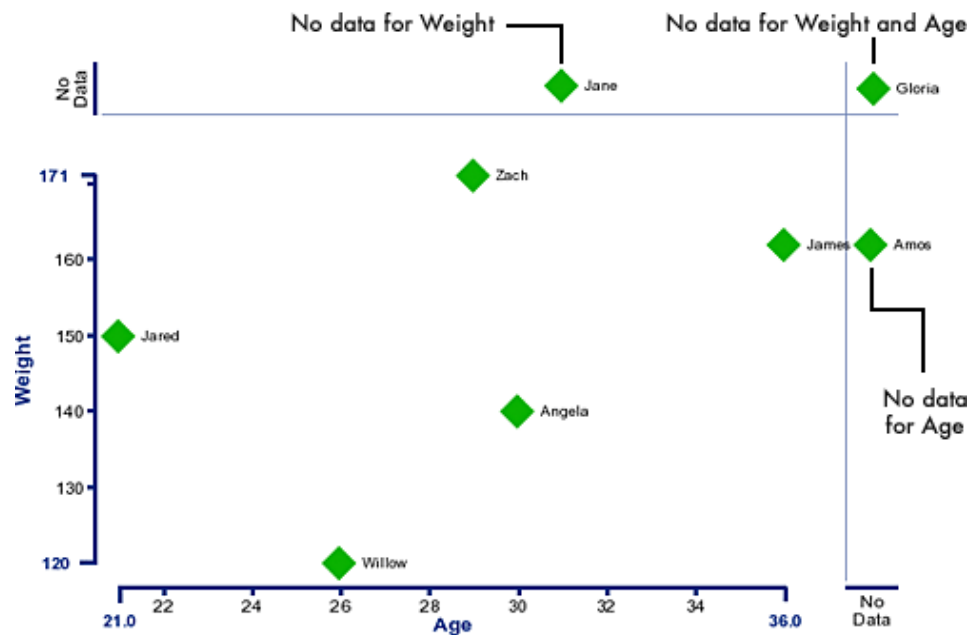
- On the **Toolbar**, click the **Clear** button .

Note: If you accidentally clear your plot, click the **Back** button  on the **Toolbar**.

About No Data areas

When a record does not contain any data for a field that has been plotted, that record's icon will move into a special **No Data** area. In Venn, Pie and single-axis Stack plots, the No Data area is located to the right of the plot.

In an Axis, mirror Stack or parallel Stack plot, there are two No Data areas because these plots have two axes. The No Data area for the Y axis is located above the plot; the No Data area for the X axis is to the right of the plot, as shown below.



For example, if your plot included data about the age and weight of a group of people, you could assign age to the X axis and weight to the Y axis. If a particular record lists a person's age, but not their weight, the icon would be located in the Y axis' No Data area, but still be correctly plotted against the X axis.

The No Data area for the Y axis is located above the plot; the No Data area for the X axis is to the right of the plot.

Chapter 16: Coloring, marking and annotating plots

InspireData provides a variety of useful tools that will help you enhance, present, explore and increase your understanding of the plots you've created.

Creating a plot title

Plot titles help you keep track of your slides and are especially useful when you are creating slide shows.

To create a plot title:

1. On the **Plot** menu, choose **Plot Title...**
2. Type the title of your plot, then click the **Accept** button  to save your changes.

The title appears at the top of the screen.

Creating notes in Plot View

Use notes to leave yourself a reminder, record observations or directions, document the data analysis process, or create captions for others to learn more about your data.

To create a note in Plot View:

1. Click the **Note** button  in the **Toolbar**.

The *Notes area* appears at the bottom of your screen.

2. Type your note, then click anywhere on the workspace.

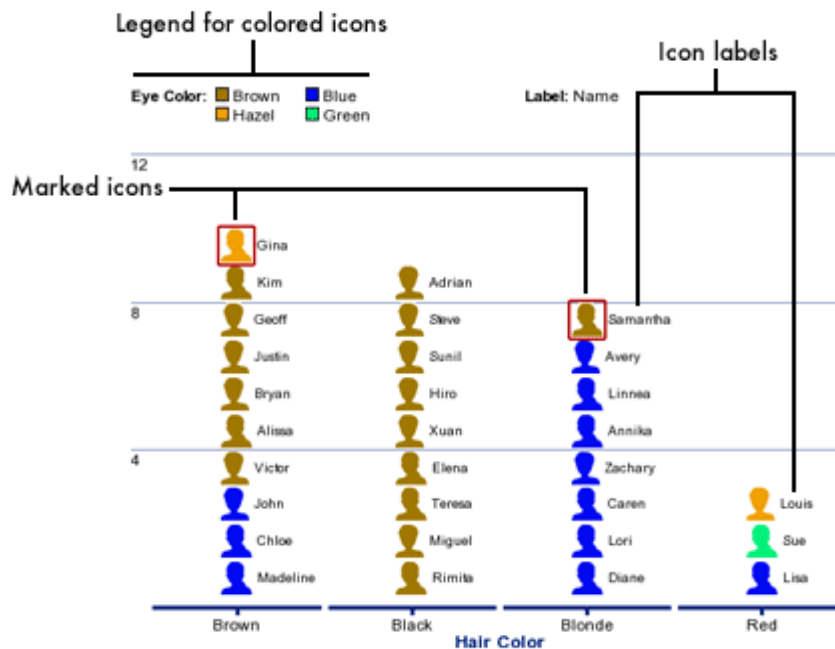
To hide your note, click on the **Note** button in the **Toolbar** again. The Notes area will be hidden, but the text of your note will be preserved.

Each plot type maintains its own separate notes. If you create a note for your Axis plot, for example, and then switch to the Venn plot type, your notes area will be blank. You can then type a new note for that plot

Note: When you save a document, you save all of your notes. However, when you view a slide, your note will be overwritten with the note for the slide. To permanently save your note, you should save it to a slide. For more information, see [Capturing a slide](#) on page 182 and [Making changes to a captured slide](#) on page 183. If you accidentally overwrite a slide, use the **Back** button  to retrieve it. For more information, see [Viewing previously created plots with the Back and Forward buttons](#) on page 167.

Labeling and marking Icons

To help identify individual records and call out data that might otherwise be hidden, you can use InspireData's labeling, coloring and marking tools for your icons.



Labeling icons in Plot View

Labels appear as text next to each icon in your plot. They can display the value of any field in your table.

To label the icons in Plot View:

- Click the **Label** button  on the **Toolbar** to turn labels on.

InspireData displays the first field in your table by default when labels are first turned on, but you can assign any of the fields. Click the **Label Options** button  to the right of the Label button, then choose the field you want to display.

Note: To turn labeling off, click the **Label** button  on the **Toolbar** again.

Labeling selected icons in Plot View

To label a single icon or a specific subset of icons, you need to select what you want to label. For more information about selecting, see [Selecting items in Plot View](#) on page 168.

To label selected icons in Plot View:

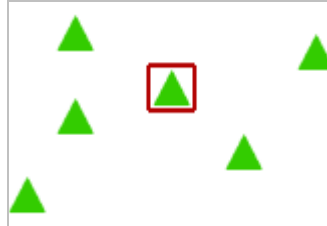
- Select the icons you want to label.
- On the **Plot** menu, choose **Label Selected Icons**.

To remove a label from an icon, select the icon, then choose **Unlabel Selected Icons** from the **Plot** menu.

Note: Even though individual icons can be labeled, all labels must still display the same field. To assign a field to the icons, click the **Label Options** button  and choose the field you want to display.

Marking icons

To keep track of a particular record or group of records as you move through your plots, you can mark their icons.



To mark an icon:

1. Click on the icon or icons you want to mark. (Hold down the Shift key to select more than one.)
2. Click the **Mark** button  on the **Toolbar**.

A red square will appear around marked icons. Marked icons will remain marked even if you switch plot types or reassigned axes.

To turn marking off, select the icon, then click the **Mark** button again.

Changing the color of the box around a marked icon

Red is the default color of a marked icon, but you can switch to another color.

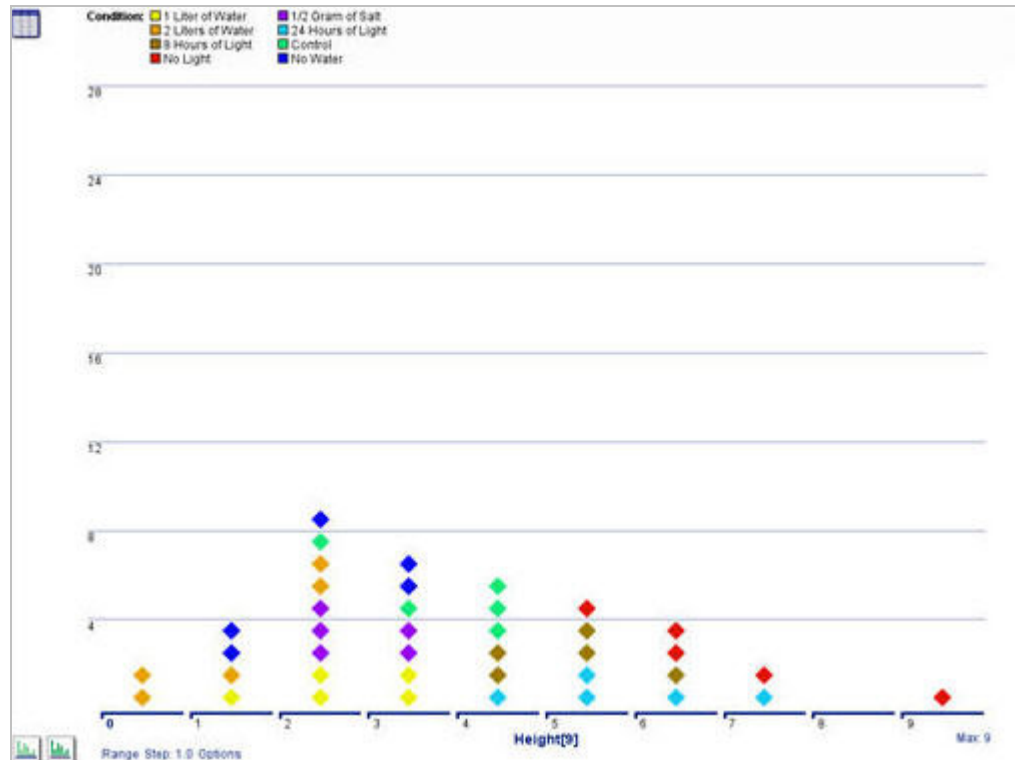
To change the color of the box around a marked icon:

1. Select the icon or icons you want to change. (Hold down the Shift key to select more than one.)
2. Click and hold the **Mark** button on the **Toolbar**, then choose the color you want to use.

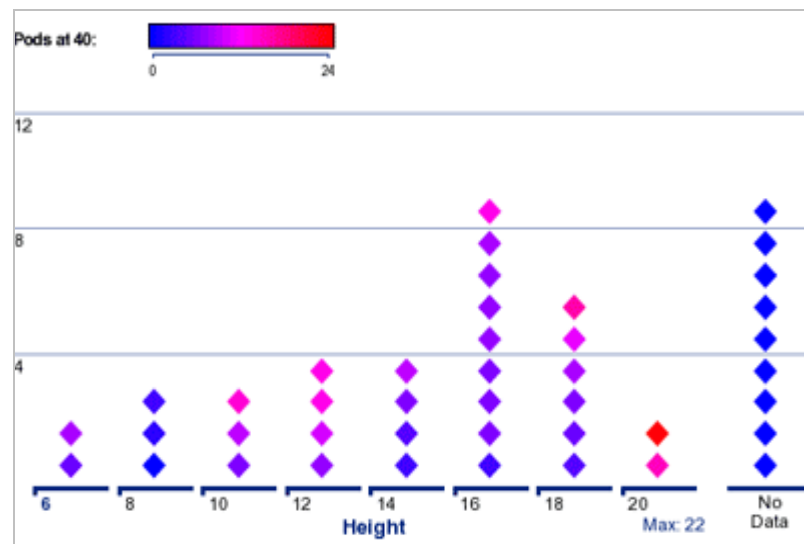
Coloring icons to enhance information in a plot

A different color for each variable in your selected field makes the information in your plot much easier to see. The **Color by field** button  will color each icon in your plot. When working with a Stack plot set to a Bar chart, the color will be the same for the bars as it was for the icons. The color assigned is based on the data in any field you choose.

The Stack plot below provides a good example of how effective coloring icons can be. One field for an experiment on plant growth provides data showing the different types of conditions the plants were grown in.

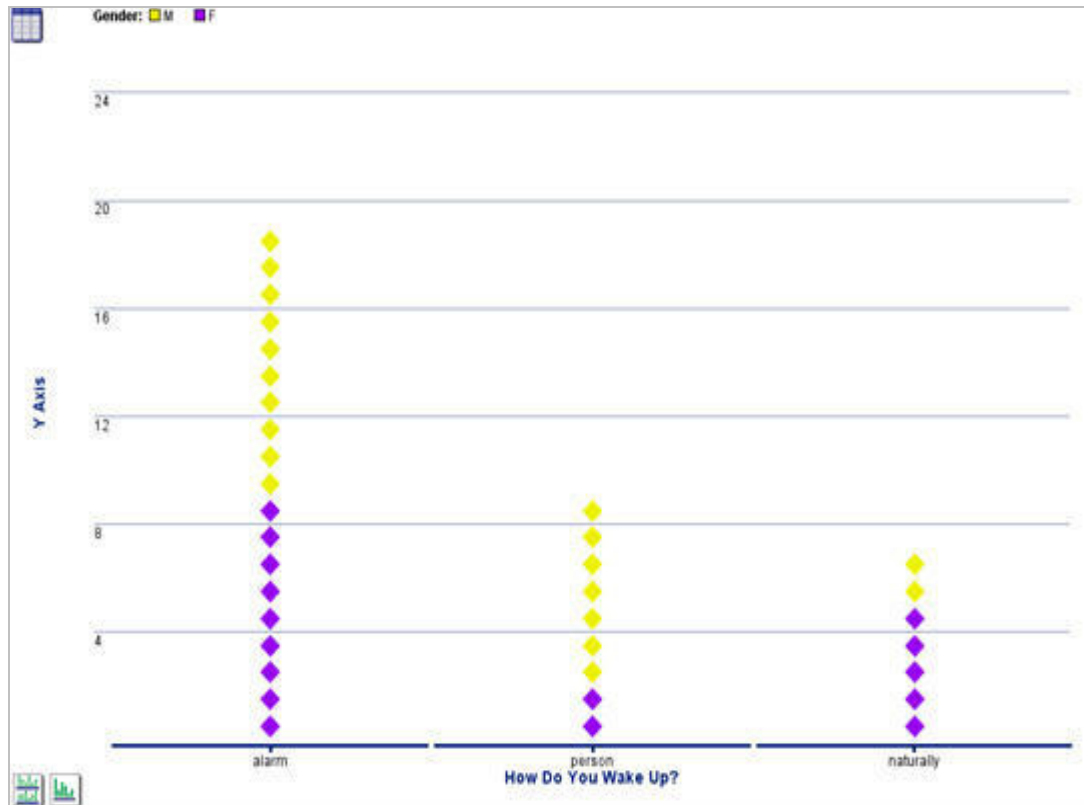


Color ranges can also be used. For example, the plot below shows icons colored according to the pod count of each plant. One color represents the plant with fewest flowers and another the plant with the most. InspireData colors the plants in between with a range of colors between the two primary colors.



Coloring icons using a text or true/false field

When you color the icons in your plot using a text or true/false field, each unique value will receive a unique color. The legend at the top of the screen will list what each color stands for.



To color the icons using a text or true/false field:

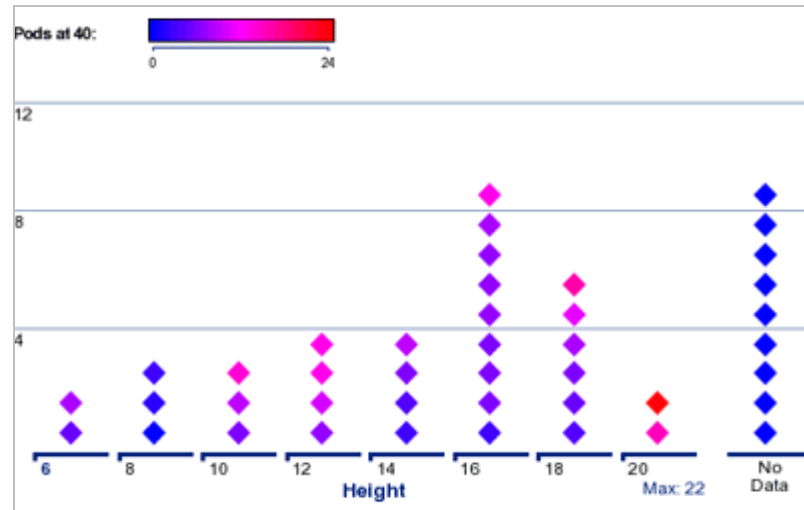
- On the **Toolbar**, click the **Color by field** button, then choose a text or true/false field to color by.

Clicking the color square next to a value's name in the legend at the top of the screen will change the color that represents that value.

Note: If there are more than eight unique values in a text field, the seven most frequent values will have a unique color. The rest will be grouped into an *Other* category. To change which values are displayed, click on any of the values in the legend. In the dialog that appears, specify which values you want to display.

Coloring icons using a number, date, time or datetime field

If you select a number, date, time or datetime field, each icon will be colored along a range of colors based on its value. The legend at the top of the screen will display the range of colors and list the high and low values of the primary colors on the range.



To color the icons using a text or number, date or time field:

- On the **Toolbar**, click the **Color by field** button, then choose a number, date, time or datetime field to color by.

To change the hue of the range of colors:

- Click on the color range in the legend at the top of the screen and choose from the menu that appears.

You can also swap the high and low colors by selecting **Flip** from the same menu.

To set the minimum and maximum values of the colors:

- Click the low and high numbers in the legend underneath the range.

Note: You can also color using a formula. The results of the formula must produce a numerical result. For more information, see Using formulas on page 195.

Changing the coloring scheme of a plot

You can customize the colors used in your plot.

To change the color for icons that have been colored using a text or true/false field:

- On the **Legend**, locate the value whose color you want to change, then click the **colored square** next to it.
- Select a new color from the menu that appears.

To change the color for icons that have been colored using a number, date, time or datetime field:

1. On the **Legend**, click the **range of colors**.
2. Select a new range of colors from the menu that appears.

You can also flip the high and low colors of a range by clicking on the **range of colors** in the **Legend** and selecting **Flip**.

To change the color for icons of a plot by using a Category, Range or Continuous scheme:

1. Click the **Color by field** button on the **Toolbar** and choose a number, date, time or datetime field to color by.
2. Click the name of the field you selected in the **Legend** at the top of the workspace.
3. Choose **Scheme**, then select **Category**, **Range** or **Continuous**.

You can manually change the colors displayed by clicking on any of the squares next to the values in the Legend and then choosing a new color.

Coloring by formula

You can color the icons based on the results of a formula. If the formula result is a true/false statement, the coloring will be categorical. If the formula results in numerical values, the coloring will be continuous.

To color the icons using a formula:

1. Click the **Color by field** button on the **Toolbar** and choose **Formula**.
2. Complete the formula, then click **OK**.

For more information, see Using Formulas on page 195.

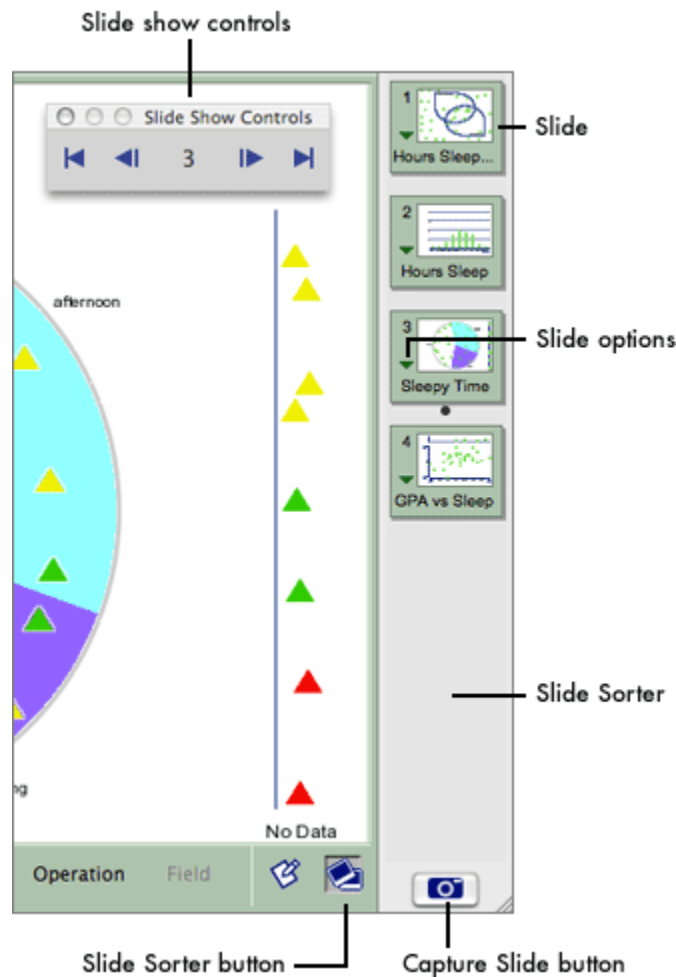
Turning coloring off

- On the **Toolbar**, click the **Color by field** button and choose **No Coloring**.

-or-

In the **Legend**, move your cursor over the field you are coloring by, then click the box to the left of the name.

Chapter 17: Creating a Slide Show



Slides allow you to store the plots that you want to come back to later. When you retrieve a slide, data remains dynamic in nature so you can edit and change the plot any way you like.

You can change the order of slides at any time, and you can jump to any particular slide with a click.

Opening the Slide Sorter

The Slide Sorter displays miniature pictures of your slides. Use the Slide Sorter to capture, title, retrieve and reorder your slides.

To open the Slide Sorter:

- Click the **Slide Sorter** button in the **Toolbar**.

-or-

On the **Slide Show** menu, choose **Open Slide Sorter**.

Capturing a slide

Capturing a slide allows you to save any plot and retrieve it whenever you need it. A slide displays the plot and all that is found on the plot: axis assignments, notes, view constraints, labeling/coloring, text size and the plot title.

To capture a slide:

- Click the **Capture Slide** button  on the **Slide Sorter**.

-or-

On **Slide Show** menu, choose **Capture Slide**.

Your new slide appears on the Slide Sorter on the right side of the workspace.

Note: If you change or remove the data in Table View, the slide will use the updated data.

Note: If you are using category or range axes, the icons will still be plotted in their proper regions. However, if you switch to another view or other plots and then return to view the slide, the exact placement of the icons within those regions may change slightly from when you captured the slide.

Viewing a captured slide

You can view a captured slide at any time.

To view a captured slide:

- In the **Slide Sorter**, click on the slide you want to view.

When you view a slide, you can continue to make changes to your plot. To restore a slide after making changes, click  on the **Slide Options** button  and choose **Update Slide** or open the **Slide Show** menu and choose **Update Slide**.

Note: If you do not update your slides after making changes, the changes will be lost.

Renaming a slide

InspireData will automatically give names to new slides based on the fields assigned to axes on the plot, but you can change this name.

To rename a slide:

1. In the **Slide Sorter**, click on the **Slide Options** button  of the slide you want to rename.
2. Choose **Rename Slide** from the menu that appears.
3. Type the new name into the text box that appears, then click **OK**.

Renaming a slide does not change the plot title, content or order of the slide in the Slide Sorter.

Reordering the slides in a Slide Show

You can change the order of the slides in your Slide Show at any time.

To reorder the slides in a Slide Show:

1. If the Slide Sorter isn't already open, click the **Slide Sorter** button  in the **Toolbar** to open it.
2. Click and drag the slide you want to move.
The other slides will make room for the slide you are dragging, indicating where the moved slide will be placed.
3. When the slide is in the place you want it, release the mouse button.

Making changes to a captured slide

You must update a slide if you add or edit a note after originally capturing your slide. Otherwise, you will lose the changes you have made.

To make changes to a captured slide:

1. In the **Slide Sorter**, click on the slide you want to make changes to.
2. Make the changes to your plot.
3. Click the **Slide Options** button ▼ on the slide you want to update and choose **Update**.

-or-

On the **Slide Show** menu, choose **Update**.

Updating a captured slide will overwrite the slide's previous version. If you want to keep both your old slide and the slide that will show your changes, don't use the update feature. Instead, make your changes and then create a new slide by clicking the **Capture Slide** button  in the **Slide Sorter**.

Deleting a slide

You can delete a slide at any time.

To delete a slide:

1. If the **Slide Sorter** isn't already open, click the **Slide Sorter** button in the **Toolbar** to open it.
2. Click the **Slide Options** button ▼ on the slide you want to delete and choose **Delete**.

-or-

On the **Slide Show** menu, choose **Delete**.

If you accidentally delete a slide, choose **Undo** from the **Edit** menu.

Note: To delete all of the slides in your document, choose **Delete All Slides** from the **Slide Show** menu.

Presenting a Slide Show

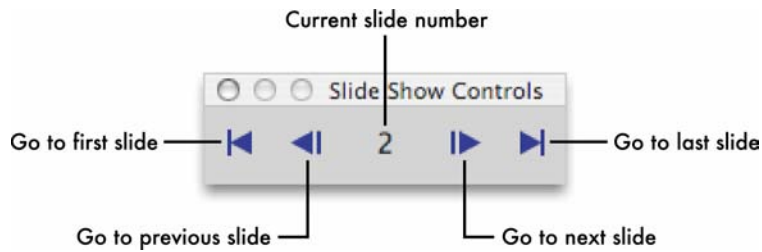
When you have finished creating and making updates to your slides, you can present them in order using a slide show.

To present a Slide Show:

1. On the **Slide Show** menu, choose **Start Slide Show**.

When you start a slide show, InspireData goes to the first slide in the **Slide Sorter** and displays the **Slide Show Controls**.

2. Use the **Slide Show Controls** to navigate through the slides in your slide show.



Note: If you choose **Show Slide Show Controls** on the **Slide Show** menu, you can start your slide show from any slide you wish. You can also use the keyboard to navigate through your slides. For more information, see Using keyboard shortcuts on page 193.

Chapter 18: Managing, importing, exporting and printing documents

Opening, closing and saving documents

Opening an existing document

You can open an existing document from either Table View or Plot View.

1. On the **File** menu, choose **Open...**
2. Select the document you want to open, then click the **Open** button.

-or-

From the **InspireData Starter** screen, click the **Open File** button.

Opening a database

The databases that come with InspireData are rich with subject area content or designed as templates to help you get started quickly.

To open a database:

- On the **InspireData Starter** screen, click the **Databases** button. Double-click on a subject area and select the example or database you want to open.

-or-

On the **File** menu, choose **Open Database...**, point to a **subject area** and select the database you want to open.

Saving a document

1. On the **File** menu, choose **Save** or **Save As**.
2. Select the folder in which to save the document.
3. Enter a name for the document, then click **Save**.

Closing a document

1. On the **File** menu, choose **Close**.
2. If you have made changes, a dialog box will appear offering three choices: Don't Save, Cancel or Save.
 - Click the **Don't Save** button if you want to close the document without saving any changes.
 - Click the **Cancel** button if you want to return to the document and not close it.
 - Click the **Save** button to save your changes.

If you do not save your changes, they will be lost.

Saving a document with a different name

If you want to save your document using a name that's different from the one you originally gave it:

1. On the **File** menu, choose **Save As**.
2. Select the folder in which to save the document.
3. Enter a name for the document, then click **Save**.

Importing data from other documents

InspireData provides a variety of tools for importing data from other InspireData documents or documents created in other applications.

Importing a file created by another application

If you want to import data from files created by another application, such as Microsoft Excel, the documents to be imported must be saved in a comma-separated or tab-separated format.

To import a file created by another application:

1. On the **File** menu, choose **Import...**
2. Select the file you want to import, then click the **Open** button.
3. In the dialog box that appears, click the **Comma-separated text file** or **Tab-separated text file** radio button, depending on the format of your imported document.
4. If you want the first row of data in your imported document to be converted into the names of your field names, check the **First line of file contains field names** checkbox.
5. Choose whether you want to import the document as a new document, as a new table in the currently open document or append it to the currently open document. Click the radio button next to your choice.
6. When you are done choosing options, click the **Finish** button.

If the document does not import the way you expected it to, make sure that you saved it as a comma- or tab-separated file from the other application.

Appending data from another InspireData document to a table

You can add data from another InspireData document to your table.

To append data from another InspireData document to a table:

1. Open the table you want to append data to.
2. On the **Table** menu, choose **Append Data...**
3. On the drop-down menu labeled **Select a database**, select a currently open document to append.

-or-

On the drop-down menu labeled **Select a database**, choose **From file...**, select the document you want to append, then click the **Next** button.

4. On the drop-down menu labeled **Select a table**, choose which table you want to append, then click the **Next** button.

You will see a dialog box that displays what your new table will look like.

5. Click the **Finish** button.

If the name and data type of the fields in the imported data matches that of the document you are appending to, the imported data will be added to the end of your table. If not, non-matching fields will be appended to the right side of your table.

Copying and pasting data from another InspireData document or other applications

If you want to import data from another InspireData document, copying and pasting is the best method. You can also copy and paste data from other applications.

Creating new fields using copied data

You can copy data from another InspireData table or document, or copy data from a document created in another application such as Microsoft Excel, then paste it into your table.

To create new fields using copied data:

1. Select the data you want from the other document.
2. On the **Edit** menu, choose **Copy**.
3. Open the InspireData document you want to paste the data into.
4. On the **Edit** menu, choose **Paste Special**, then choose **Add Fields to Table**.

Pasted fields are added to the right side of your table. To paste a field into a specific place, select the field to the left of where you want the pasted field to be inserted before pasting.

Creating new records using copied data

You can copy records from another InspireData document or a document created in another application such as Microsoft Excel, then paste it into your table.

To create new records using copied data:

1. Copy the data you want from the other document or application.
2. Open the InspireData document you want to paste into.
3. On the **Edit** menu, choose **Paste Special**, then choose **Append to Table**.

Pasted records are usually added at the bottom of your table. However, if your table is sorted, the pasted records will appear in sorted order.

Reinterpreting the way copied data is pasted

The results you see when pasting data from another application into an InspireData document may not be what you expect. However, InspireData may be able to reinterpret the copied data to better fit with what you intended.

To reinterpret the way copied data is pasted:

1. On the **Edit** menu, choose **Clipboard** and select **Re-interpret...**
2. Click the radio buttons to change how your copied data is interpreted.

The preview box at the bottom of the dialog will change to show you how the data will appear when pasted.

3. When you are finished making changes, click **OK**.

If the data is still not appearing the way you expected, try saving the document in the other application as a comma- or tab-separated text file, then importing it into InspireData. For more information, see Importing a file created by another application on page 186.

Changing which cells are interpreted as records and fields for copied data

If you need to copy data from a document in another application where the data in fields is listed vertically and the data in records is listed horizontally (the opposite of how InspireData functions), you can swap the orientation of the copied fields and records.

Before flip diagonal

Gina	John	Chloe	Avery
F	M	F	M
Brown	Brown	Brown	Blond
Hazel	Blue	Blue	Blue

After flip diagonal

Gina	F	Brown	Hazel
John	M	Brown	Blue
Chloe	F	Brown	Blue
Avery	M	Blond	Blue
Kim	F	Brown	Brown

To change which cells are interpreted as records and fields for copied data:

1. Select and copy the data you want from the other application.
2. Switch to the InspireData document you want to paste into.
3. On the **Edit** menu, choose **Clipboard** and select **Flip Diagonal**.
4. On the **Edit** menu, choose **Paste** or **Paste Special**.

Data that would have been pasted horizontally will now be pasted vertically and vice versa.

Exporting documents

Exporting a table

InspireData can export the data in a table as a comma- or tab-separated text file for use in other programs such as Microsoft Excel.

To export a table:

1. On the **File** menu, choose **Export Table...**

2. Enter a name for the exported file.
3. Choose a file type to save as, then click **Save**.

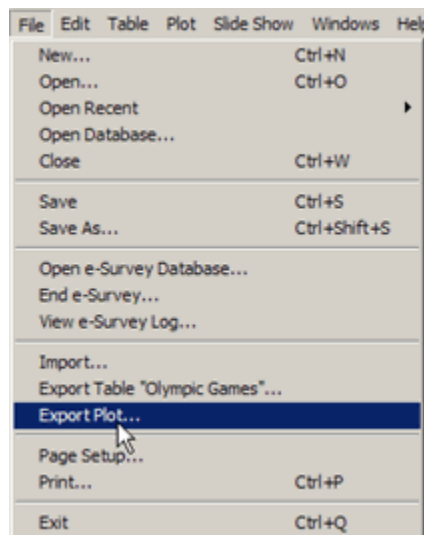
Note: If your table contains a subtable field, be sure to expand it before exporting your table. For more information, see Expanding and collapsing a subtable on page 134.

Exporting and copying a plot

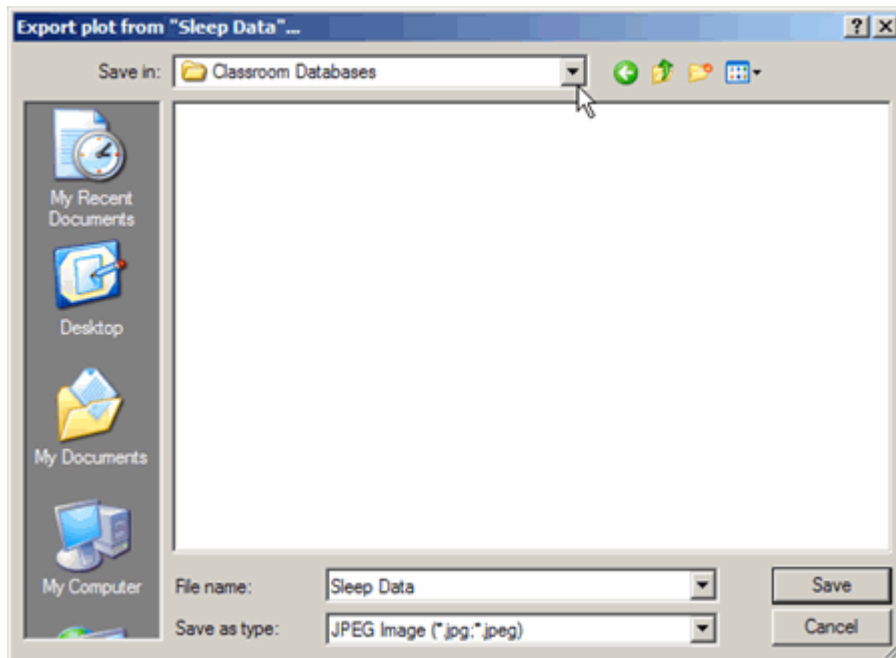
You can export an image of your plot to a file by using a .JPG, .GIF or .PNG format. You can also copy the current plot to your system's clipboard and paste it into another application.

To export a plot:

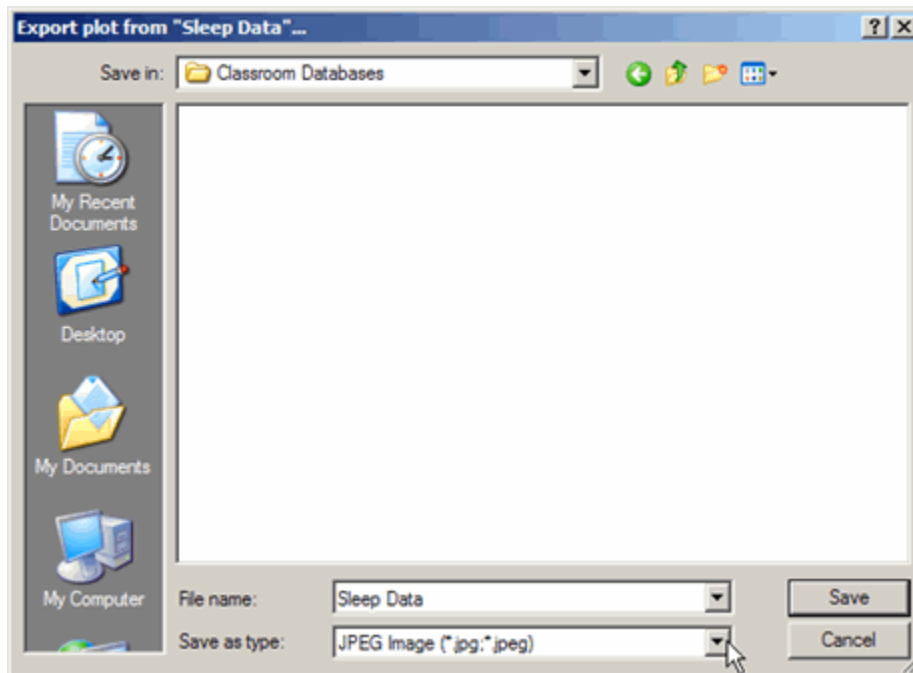
1. From the **File** menu, choose **Export Plot**.



2. Specify the **name** of the exported plot file in the dialog that appears and choose the **location** where you want to save it.



3. Choose a format for the exported image (**.JPG**, **.GIF** or **.PNG**).



4. Click **Save**.

To copy a plot:

1. From the **Edit** menu, choose **Copy Plot**.
2. Switch to the application that you want to paste the plot into. Create a new document.

3. **Paste** the image into the application using that application's **Paste** command. (Typically, you will find the **Paste** command on the **Edit** menu.)

For more information on creating a new document, pasting, and saving in another application, please refer to that application's documentation.

Printing

Setting print options

You can change the size of paper you want to use for printing, the orientation of your text on the page and more.

To set print options:

1. Open the document you want to print.
2. On the **File** menu, choose **Page Setup**.
3. Make the changes you want, then click **OK**.

To change the options for your printer, click the **Printer...** button in the Page Setup dialog. The options you see will depend on the model of printer you have selected.

Printing a table or plot

InspireData prints the document displayed on the screen. Tables with many fields or records may print on multiple pages. When this happens, InspireData will add a row and column number to the header of each page so that you can orient your pages correctly. Plots are sized to fit onto a single page.

To print a table or plot:

1. Open the document you want to print.
2. On the **File** menu, choose **Print...**

The options in the Print dialog depend on the type of printer and printer software you're using. In general, you will be able to specify the number of copies you want to print and a range of pages to print.

3. Click **Print**.

Note: To print a section of a plot, use the **Zoom In**, **Exclude Selected Icons** or **View Constraint** commands on the plot menu. For more information, see Hiding specific icons in Plot View on page 169.

Printing a Survey or e-Survey

Surveys and e-Surveys are both printable as a means to gather data on paper, which can then later be entered into InspireData.

To print a Survey:

1. Make sure the Survey is set up the way you want it. (See Entering data using a Survey or e-Survey on page 97.)
2. On the **Table** menu, choose **Print Survey...**

The options in the Print dialog depend on the type of printer and printer software you're using. In general, you will be able to specify the number of copies you want to print and a range of pages to print.

3. Click **Print**.

Note: The custom icon will not print. The invitation text is only intended for e-Surveys and will not print on the Survey.

To print an e-Survey:

1. Make sure the e-Survey is set up the way you want it and publish it. (See Publishing an e-Survey to the Internet on page 104.)
2. Navigate to **<http://esurvey.inspireddata.com>** using your web browser, then enter your **Survey ID** and click **Start**.
3. On the **File** menu in your web browser, choose **Print...**

The options in the Print dialog depend on the type of printer and printer software you're using. In general, you will be able to specify the number of copies you want to print and a range of pages to print.

Note: Neither the background of the page nor the custom icon will print.

Size and memory limits

On most computers, InspireData will perform well with tables containing up to 50 fields and 3,000 records. Documents can contain a maximum of 100 fields and 10,000 records, though large tables may cause slow performance on older systems.

Tables with many structured fields such as series, multi-series and subtable fields may cause slow performance on some computers. Documents can contain a maximum of 500 series columns and 500 subrecords.

Chapter 19: Reference

Using keyboard shortcuts

Keyboard shortcuts can save you a lot of time. Some common commands, such as opening and closing documents, are the same whether you are working in Table View or Plot View. However, when you review the shortcuts, you will see that several commands are available depending on which view you're in.

Keyboard shortcuts for common commands

To:	Windows	Macintosh
Open Starter screen	Ctrl + N	Command + N
Open existing document	Ctrl + O	Command + O
Close active window	Ctrl + W	Command + W
Save document	Ctrl + S	Command + S
Save document as...	Ctrl + Shift + S	Command + Shift + S
Print document	Ctrl + P	Command + P
Quit/Exit InspireData	Ctrl + Q Alt + F4	Command + Q
Undo	Ctrl + Z	Command + Z
Redo	Ctrl + Shift + Z	Command + Shift + Z
Cut	Ctrl + X	Command + X
Copy	Ctrl + C	Command + C
Paste	Ctrl + V	Command + V
Select all	Ctrl + A	Command + A
Clear	Backspace or Delete	Backspace or Delete
Help	Ctrl + Shift + ?	Command + Shift + ?

Keyboard shortcuts for tables and data entry

To:	Windows	Macintosh
Switch to Table View	Ctrl + Shift + T	Command + Shift + T
Add new table	Ctrl + Shift + N	Command + Shift + N
View/Change table properties	Ctrl + Alt + T	Command + Shift + T

Move left one cell	Left arrow	Left arrow
Move right one cell	Right arrow	Right arrow
Move up one cell	Up arrow	Up arrow
Move down one cell	Down arrow	Down arrow
Move to the next cell	Tab	Tab
Move to the previous cell	Shift + Tab	Shift + Tab
Accept changes and move down	Enter	Return
Add record	Ctrl + R	Command + R
Add field	Ctrl + L	Command + L

Keyboard shortcuts for plots

To:	Windows	Macintosh
Switch to Plot View	Ctrl + T	Command + T
Show notes	Ctrl + Shift + Y	Command + Shift + Y
Label selected icon	Ctrl + Alt + L	Command + Alt + L
Increase icon size	Ctrl + Shift + +	Command + Shift + +
Decrease icon size	Ctrl + -	Command + -
Zoom in on selected icons	Ctrl + Alt + Z	Command + Alt + Z
Exclude (hide) selected icons	Ctrl + Alt + E	Command + Alt + E

Keyboard shortcuts for slide shows

To:	Windows	Macintosh
View first slide	Ctrl + Alt + Left arrow	Command + Alt + Left arrow
View previous slide	Ctrl + Left Arrow	Command + Left Arrow
View next slide	Ctrl + Right Arrow	Command + Right Arrow
View last slide	Ctrl + Alt + Right Arrow	Command + Alt + Right Arrow
Capture slide	Ctrl + E	Command + E

Using shortcut menus

Shortcut menus list commands pertaining to a screen region or selection. You can quickly carry out many of the commands in InspireData using a shortcut menu.

To display a shortcut menu:

- Click the **right mouse** button (Windows) or hold down the **Control** key (Macintosh) and click.

Using formulas

You can define a field or axis using a formula, as well as use a formula with the Color by Field and Label tools.

Formula syntax

Formulas in InspireData use an easy-to-follow syntax. The following are the rules for formula syntax:

- In most cases, you can choose whether or not to use a space between operators and variables in your formula. For example, both of the following are valid: 'Field 1' + 'Field 2' and 'Field 1'+ 'Field 2'.
- If your field heading contains spaces, use single quotes around the field name. For example: 'Field 1', 'Global Population', 'Plant Growth'.
- When referring to a field, you can use only the first few characters of that field's heading as long as this provides enough information for InspireData to tell which field you want to use. For example, if your table contained fields named **Category**, **Caterer** and **Cats**, you could refer to those fields as **Categ**, **Cater** and **Cats** respectively.
- When referring to a series column in a series or multi-series field or to a subfield in a subtable field, type the field heading followed by the name of the series column or subfield in square brackets. For example, you would refer to the day 10 series column in the Height series field as: Height [10].
- When referring to a linked field or to a subfield in a subtable, type the field heading, followed by a period (.) and then the name of the linked field or subfield. For example, you would refer to the 'Distance' subfield in the Moons subtable field as: Moons.Distance.
- Invalid syntax or an operator or function that is incomplete will cause an error message to appear beneath the Formula box. The OK button will be disabled. Once you complete your formula in a way that allows InspireData to produce a result, the message will disappear and the OK button will become available.

Formula operators

InspireData provides a variety of operators for use in your formulas:

Arithmetical operators

The following operators perform arithmetical operations on numbers or Number fields and produce a numerical result.

+ (Add) Add two numbers.

Example: 'Field 1' + 10

Add 10 to Field 1.

- (Subtract) Subtract two numbers.

Example: 'Field 1' - 10

Subtract 10 from Field 1.

*** (Multiply)** Multiply two numbers.

Example: 'Field 1' * 10

Multiply Field 1 by 10.

/ (Divide) Divide two numbers.

Example: 'Field 1' / 10

Divide Field 1 by 10.

^ (Exponent) Raise one number to the power of another

Example: 'Field 1' ^ 3

Raise Field 1 to the power of 3.

div (Divide integer) Divide the whole-number part of two numbers.

Example: 'Field 1' div 10.6

Divide Field 1 by 10.

mod (Modulo) Divide two numbers and return the remainder.

Example: 'Field 1' modulo 10.6

Return the remainder of Field 1 divided by 10.6.

Comparison operators

The following operators perform comparison operations and produce a True/False result.

/= (Not equal)

Example: 'Field 1' /= 10

Is Field 1 not equal to 10?

< (Less than)

Example: 'Field 1' < 10

Is Field 1 less than 10?

<= (Less than or equal)

Example: 'Field 1' <= 10

Is Field 1 less than or equal to 10?

= (Equal)

Example: 'Field 1' = 10

Is Field 1 equal to 10?

> (Greater than)

Example: 'Field 1' > 10

Is Field 1 greater than 10?

>= (Greater than or equal)

Example: 'Field 1' >= 10

Is Field 1 greater than or equal to 10?

contains

Example: 'Field 1' contains "Blue"

Does Field 1 contain the word blue? (Note that the specified value must be contained within quotes.)

Logical operators

The following operators perform logical operations for use with the conditional below.

and *Example:* if 'Field 1' < 10 and 'Field 2' > 4...

If Field 1 is less than 10 AND Field 2 is greater than 4...

not *Example:* if 'Field 1' < 10 not 'Field 2' > 4...

If Field 1 is less than 10, but Field 2 is NOT greater than 4...

or *Example:* if 'Field 1' or 'Field 2'...

If Field 1 is less than 10 or if Field 2 is greater than 4...

Conditionals

You can use the following to build simple *if, then statements*.

Example: if 'Field 1' > 'Field 2' then 'Field 1' * 2 else 'Field 1' / 2

If Field 1 is greater than Field 2, multiply Field 1 by 2. If not, divide Field 1 by 2.

if, then *Example:* if Field 1 = 10 then...

If Field 1 equals 10, do the following...

if, then, else *Example:* if Field 1 = 10 then... ..else...

If Field 1 equals 10, do the following... ..if it doesn't, then do the following...

Formula functions

InspireData provides a variety of functions for use in your formulas:

Mathematical functions

The following functions perform mathematical calculations on numbers or Number fields and produce a numerical result.

abs(number) Calculate the absolute value of a number.

Example: abs('Field1')

cos(number) Calculate the cosine of a number.

Example: cos('Field1')

ln (number) Calculate the natural logarithm (log base e) of a number.

Example: ln('Field1')

log (number [, base]) Calculate the logarithm of a number.

Example: log('Field 1',2)

max (number, number) Calculate the highest number between two or more fields.

Example: max ('Field 1', 'Field 2', Field 3);

What is the highest value among Field 1 and Field 2 and Field 3?

min (number, number) Calculate the lowest number between two or more fields.

Example: min ('Field 1', 'Field 2', 'Field 3')

What is the lowest value among Field 1 and Field 2 and Field 3?

round(number [, precision]) Round a number to the nearest *precision*.

Example: round ('Field 1', 3)

Round Field 1 to the nearest thousandth.

sin(number) Calculate the sine of a number.

Example: sin('Field1')

sqrt(number) Calculate the square root of a number.

Example: sqrt('Field1')

tan(number) Calculate the tangent of a number.

Example: tan('Field1')

String functions

The following operators perform operations on text fields.

length(string) Count the number of characters in a string. *Example:* length('Field 1'); How many characters are in Field 1?

concat(string, string, etc) Combine the text in a set of fields. *Example:* concat('Field 1','Field 2','Field 3'); Merge the contents of Fields 1, 2 and 3.

Logical functions

The following operators perform operations a field and produce a true/false result.

valid(value) Check if a field contains a valid value. *Example:* valid('Field 1'); Does Field 1 contain any data or a valid value for its data type?

Data type conversion functions

The following operators perform operations on text and number fields and produce a numerical result.

date(value) Convert the value in a field to a date. *Example:* date('Field 1')

datetime(value) Convert the value in a field to a date and time. *Example:* datetime('Field 1')

text(value) Convert the value in a field to text. *Example:* text('Field 1')

time(value) Convert the value in a field to a time. *Example:* time('Field 1')

Summary functions for structured fields

The following operators perform computations on series, multi-series and subtable fields and produce a numerical result.

count(field) Count the number of subfields in a field. *Example:* count('Field 1'); How many subfields are in Field 1?

largest(field) Finds the largest value in a field. *Example:* largest('Field 1'); What is the highest value in Field 1?

smallest(field) Finds the smallest value in a field. *Example:* largest('Field 1'); What is the lowest value in Field 1?

mean(field) Calculates the mean of a field. *Example:* mean('Field 1')

median(field) Calculates the median of a field. *Example:* mean('Field 1')

total(field) Adds all the values of a field. *Example:* mean('Field 1')

Deciding which kind of structured field to use

When working with structured fields, deciding which kind of structured field to use can be a confusing task. Below are a set of questions that can help you decide:

1. Will each of the records you enter have the same number of values?
 - For example, if you are taking the same set of measurements on each thing in a group, answer **yes**.
 - If you were recording whether an animal had spots—and if so, how many—answer **no**.
 - If you were asking someone to list their favorite three foods, answer **yes**. If you wouldn't specify how many of their favorite foods to list, answer **no**.
 2. Will each of the records you enter contain more than one kind of measurement?
 - For example, if you were measuring the height, width, depth and weight of each object in a set, answer **yes**.
 - If you were measuring only the height of each object in a set, answer **no**.
 - If you were asking someone to list their favorite food only, answer **no**. If you were asking for their favorite food, color and type of music, answer **yes**.
- If you answered **no to both questions**, use a *list field*. For more information, see Using list fields on page 122.
 - If you answered **yes to Question 1** and **no to Question 2**, use a *series field*. For more information, see Using series fields on page 123.
 - If you answered **yes to both questions**, use a *multi-series field*. For more information, see Using multi-series fields on page 125.
 - If you answered **no to Question 1** and **yes to Question 2**, use a *subtable field*. For more information, see Using subtables on page 133.

Glossary

axis

Horizontal or vertical line along which icons can be plotted. Axes can be displayed as categories, ranges or continuously in Axis, Stack and Pie plot modes.

Axis plot

Plot mode that contains a vertical and horizontal axis.

Bar chart

A view of a Stack plot that displays bars instead of stacks of icons.

category

Subdivision created when a category axis or range axis is present in a plot.

category axis

Axis that contains a subdivision for each unique value in a given field. Default axis type for text or true/false fields.

cell

The intersection of a field and a record in Table View.

clipboard

Area where your operating system stores copied data from InspireData or other applications.

data

Values contained within a record, field or table.

data type

Setting for a field that determines what kind of data can be entered. (e.g., numbers only, text and numbers, dates only, etc.)

database

InspireData document containing one or more tables of data based on a particular subject.

document

Generic name for a file created by InspireData.

e-Survey

An online web questionnaire that allows students to go to esurvey.inspiredata.com to add data to web forms, which are then downloaded to an InspireData database.

e-Survey database

A database created by downloading the results of an e-Survey.

example

InspireData document containing data, plots, slides and notes based on a particular subject.

field

Column in a table that determines what characteristic will be recorded for a particular cell in a record.

field type

Setting for a field that determines how the data in it is structured.

format

Setting for a field that determines how the data contained within it appears.

field heading

Title or name of a field.

icon

Customizable graphic representation of a record in Table View and Plot View.

label

Textual representation in Plot View of the data in one field of a record.

Line Graph

Graph for displaying data or information that changes continuously over time.

Line of Best Fit

Line used for determining the strength and direction of correlation between two fields.

list field

Field type that divides pieces of data using commas.

multi-series field

Field type that is divided into multiple columns and rows. Each record contains the same number of rows.

No Data

Area in Plot View where icons containing no data for a given field are plotted.

Note

Block of text that can be added to a field, record, table or plot.

Owner ID

The number given when publishing an e-Survey that allows you to end the e-Survey.

Pie

Plot mode that places icons into sections based on the quantity of values for a given field.

plot

Graphical representation of the data contained within a table.

Plot View

View in which plots can be created.

range axis

Axis that is divided into equally spaced intervals based on the maximum and minimum values in a given field.

range step

Size of the interval used in the subdivisions of a range axis.

record

Row in a table where the data for each subject, object or entry in a table is stored.

region

Subdivision of a category or range axis, Venn loop or Pie wedge.

series column

Column contained within a series or multi-series field.

series field

Field type that is divided into multiple columns.

series playback controls

Controls that allow you to move between series columns when a series or multi-series field is plotted.

Slide

Object that can be used to store and retrieve the axis, notes and plot options of a plot.

Slide Show controls

Controls that allow you to switch between captured slides in Plot View.

sort

Order in which records appear in a table.

Stack

Plot mode that places icons into stacks determined by common values in a given field.

structured field

Generic term for a field type that can contain more than one piece of data: List, series, multi-series or subtable field.

subtable

Field type that is divided into multiple columns and rows. Each record can have a unique number of rows.

supercategory

Combination of two or more categories.

Survey

An on-screen form that can be used to create a database.

Survey ID

The ID number given to respondents in an e-Survey so they can have access to the online survey form at esurvey.inspiredata.com.

table

Grid that contains related data about a particular subject.

Table View

View in which tables can be created.

Text Size Control

A button on the Toolbar for increasing the size of text in both Table View and Plot View.

Toolbar

Horizontal bar containing tools for common functions in InspireData; appears at the top of the screen in Table View, appears at the bottom of the screen in Plot View.

validation settings

Settings that allow control over data entered into fields, such as maximum number of characters, a range of options, a customized list of choices, or a drop-down list of choices.

value

Generic term for the data in a particular cell, record or field.

Venn

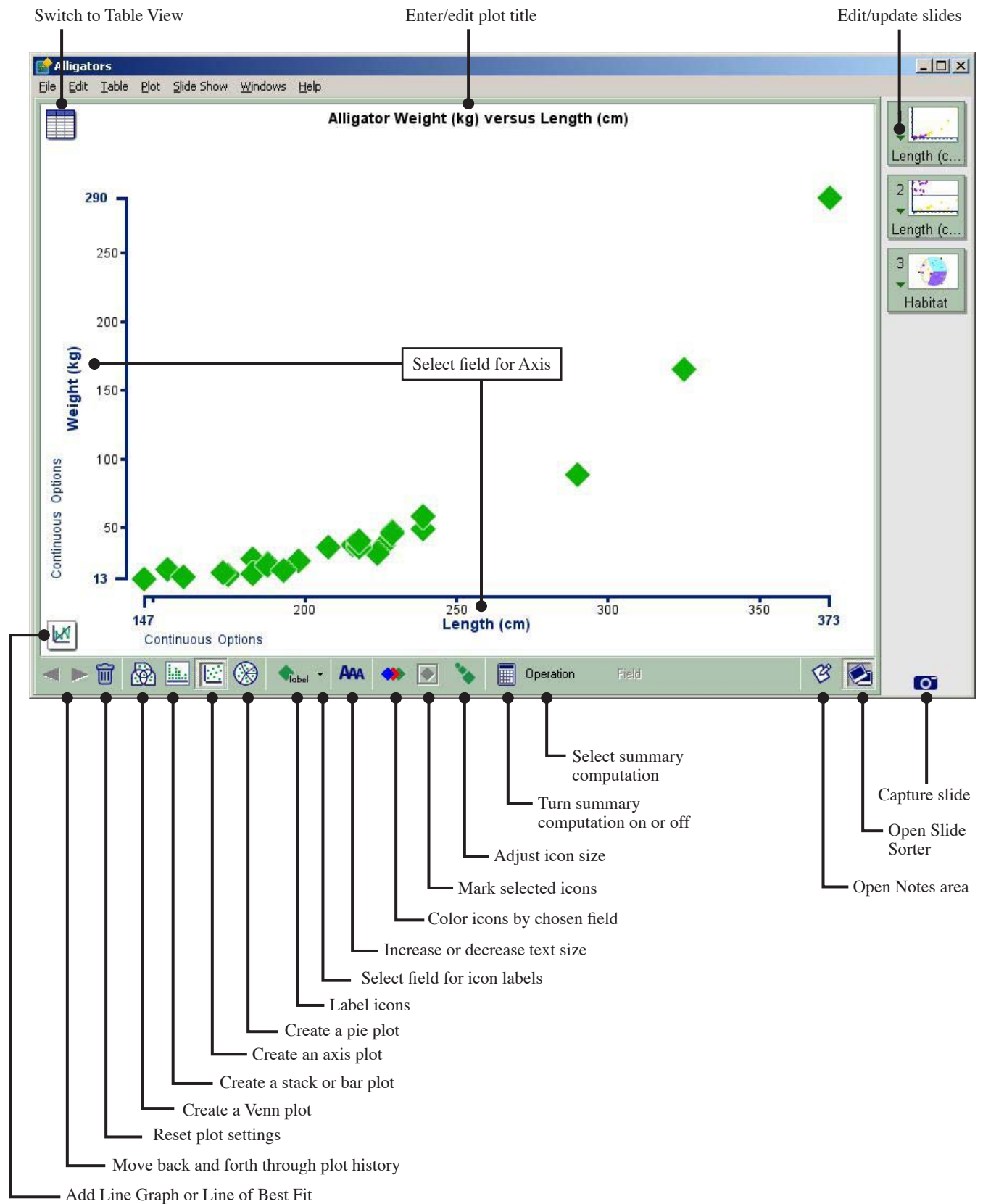
Plot mode that places icons into loops based on common values in a given field.

zoom

Tool that focuses in on a set of records -and hides the others from view.

Appendix

InspireData Quick Reference: Plot View



InspireData Quick Reference: Table View

The screenshot shows the InspireData Table View interface for a table named 'Alligators'. The interface includes a menu bar (File, Edit, Table, Plot, Slide Show, Windows, Help), a toolbar with icons for adding records, fields, and switching views, and a data table. Annotations point to specific features:

- Double click to edit custom icon:** Points to the icon in the top-left corner of the table view.
- Switch to Plot View:** Points to the 'Plot' button in the toolbar.
- Add record:** Points to the 'Add Record' button in the toolbar.
- Add field:** Points to the 'Add Field' button in the toolbar.
- Increase or decrease text size:** Points to the 'Aa' text formatting button in the toolbar.
- Assign field type:** Points to the 'Number' dropdown menu in the toolbar.
- Format field:** Points to the 'Format...' button in the toolbar.
- Validate entry:** Points to the 'Validation...' button in the toolbar.
- Open Notes area:** Points to the 'Notes' button in the toolbar.
- Enter/edit cell data:** Points to the 'Weight (lbs)' text box in the toolbar.

The data table contains 19 records with the following columns: Alligator ID, Gender, Length (in), Length (cm), Weight (lbs), Weight (kg), and Habitat.

Alligator ID	Gender	Length (in)	Length (cm)	Weight (lbs)	Weight (kg)	Habitat
1	male	74	188	54	24.5	canal
2	male	94	239	110	49.9	marsh
3	female	85	216	84	38.1	canal
4	female	61	155	44	20.0	marsh
5	male	128	325	366	166.0	river
6	female	72	183	61	27.7	river
7	male	89	226	84	38.1	canal
8	male	90	229	106	48.1	marsh
9	female	63	160	33	15.0	canal
10	female	82	208	80	36.3	canal
11	male	114	290	197	89.4	river
12	female	69	175	36	16.3	marsh
13	male	86	218	83	37.6	canal
14	male	88	224	70	31.8	river
15	female	58	147	28	12.7	river
16	male	90	229	102	46.3	river
17	male	94	239	130	59.0	marsh
18	male	68	173	39	17.7	marsh
19	female	78	198	57	25.9	marsh

InspireData Quick Reference: Survey and e-Survey

Create a Survey that can be launched locally or on the web:

1. Open a database. On the **Table** menu, select **Edit Survey**.
2. Decide if users will be allowed to select their own icons by checking or unchecking the box next to **Allow user to select record icons**.
3. By default, title will be “Fill in this Survey for *Database’s Name*.” To change the title, check **Use custom title** and enter the new title into the **Title** box.
4. To add an invitation text that users will see when completing an e-Survey, check **Invitation Text** and enter your text.
5. To exclude fields, click the **Include?** Button to deselect.
6. To require fields, click **Required?** To select.
7. For each included field, type survey questions or prompts into the **Question** box.

Include?	Field	Type	Required?	Question
☒	Student	Text	☒	Student code
☒	Age	Number	☒	Age
☒	Gender	Text (Validated)	☒	Gender
☒	Hours Sleep	Time	☒	Average hours of sleep per weeknight
☒	Wake Process	Text (Validated)	☒	Ease of waking up on a weekday morning
☒	How Do You Wake Up?	Text (Validated)	☒	How you usually wake up on a weekday
☒	Breakfast	Text (Validated)	☒	Size of typical weekday breakfast

Entering data using a Survey that is launched locally:

1. On the **Table** menu, choose **Launch Survey**.
2. Enter data into the boxes next to each question.
3. Click the **Import...** button to assign a custom icon.
4. Enter data after each prompt. Fields that have been validated will list valid entries below each blank space on the form.
5. When finished entering data, click the **Add Record** button. A new record with the data is added to the table and the form is cleared and ready for the next record.
6. When finished adding records, click the **Close** button.

Sleep Survey

To customize the icon for this record, double click the icon to edit it or click 'Import...' to import a picture file.

☒ Student code (*) This value is required.

☒ Age (*) This value is required.

☒ Gender (*) This value is required. Valid Entries: Male, Female

☒ Average hours of sleep per weeknight (*) This value is required.

☒ Ease of waking up on a weekday morning (*) This value is required. Valid Entries: easy, so-so, hard

☒ How you usually wake up on a weekday (*) This value is required. Valid Entries: naturally, alarm, person

☒ Size of typical weekday breakfast (*) This value is required. Valid Entries: none, small, medium, large

(*) Some required fields have not been filled in

Entering data using an e-Survey that is published to the web:

1. On the Table menu, choose **Publish e-Survey**.
2. In the dialog that appears, click **Publish**.
3. Print the next dialog so you will have a copy of your **Survey ID** and **Owner ID**, then click **Done**.
4. Navigate to **<http://esurvey.inspiredata.com>** using your web browser, then enter your **Survey ID** and click **Start**.
5. When finished, click **Submit**.

InspireData™

e-Survey

Sleep Survey

Please take part in our survey by answering the questions below!

Click the **Submit** button at the end when you finish.

Choose a graphic file to use as a custom icon:
Your graphic file will be reduced in size and appear in InspireData.

Student code

required

Age

required

Gender

Average hours of sleep per weeknight

required

Ease of waking up on a weekday morning

How you usually wake up on a weekday

Size of typical weekday breakfast

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To enter more data for the same e-Survey,
use the **Submit & Repeat** button.

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